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DATA COLLECTION & GRAPHING

OBJECTIVES

- ✘ Understand what data is.
- ✘ Understand the purpose of data collection.
- ✘ Understand types of data to be collected.
- ✘ Understand methods of data collection.
- ✘ Review methods of graphing data.

WHAT IS DATA?

- ✘ Data is information

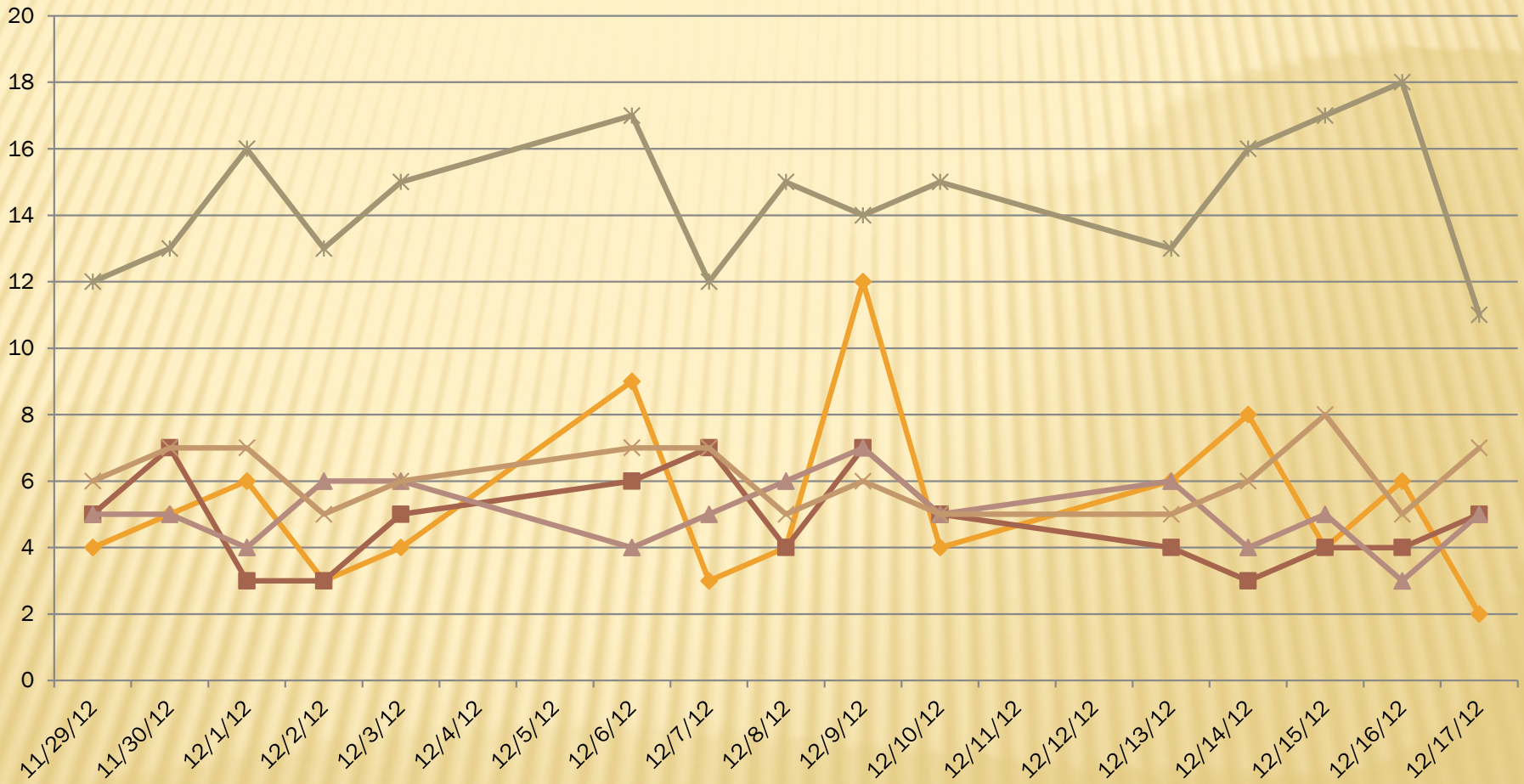
- + Recognize that some information is useful and some is not.
- + Data for the sake of data is of little use and can be distracting.
- + Collection should be purposeful and focused.
- + Being a good consumer of data is important.

IS THE DATA USEFUL?

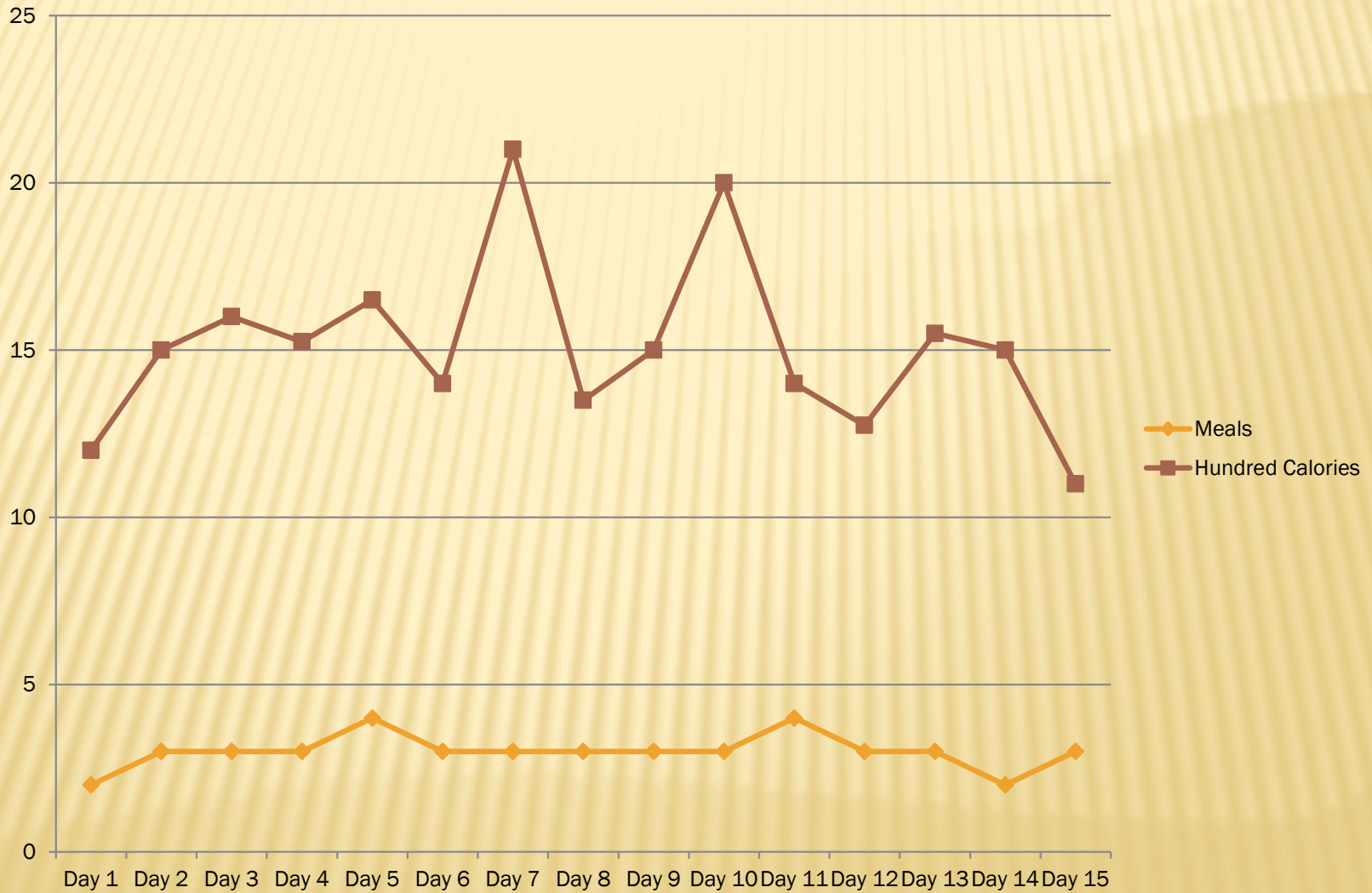
- ✘ 4 out of 5 people are taller than 20% of the population.



DATA OVERLOAD



IS YOUR DATA PURPOSEFUL?



BE A GOOD CONSUMER OF DATA

✘ Student A

- + On-Task rate of 71%
- + Complies to 78% of requests first time asked
- + 65% work completion rate

BE A GOOD CONSUMER OF DATA

✘ Student A

- + On-Task rate of 71%
- + Complies to 78% of requests first time asked
- + 65% work completion rate

✘ Class Average

- + On-Task rate of 75%
- + Complies to 82% of requests first time asked
- + 69% work completion rate

BE A GOOD CONSUMER OF DATA

× Student A

- + On-Task rate of 71%
- + Complies to 78% of requests first time asked
- + 65% work completion rate

× Class Average

- + On-Task rate of 93%
- + Complies to 92% of requests first time asked
- + 97% work completion rate

BE A GOOD CONSUMER OF DATA

× Student A

- + On-Task rate of 71%
- + Complies to 78% of requests first time asked
- + 65% work completion rate

× Class Average

- + On-Task rate of 42%
- + Complies to 35% of requests first time asked
- + 26% work completion rate

PURPOSE OF DATA COLLECTION

- ✘ One of the main purpose of data collection is to improve our ability to make decisions.
 - + Is this a problem?
 - + Is it a group problem or an individual problem?
 - + Is our intervention working?
 - + Etc.

TYPES OF DATA

- ✘ Most data is collected based on a few factors.
 - + Frequency – how many times does it happen?
 - + Duration – how long does it last?
 - + Percentage – how accurate is it or how many times does it happen compared to opportunities for it to happen.
- ✘ Other possible factors:
 - + Intensity – how “big” is it?
 - + Latency – how long of delay before it happens?
 - + Function – what purpose does it serve?

NECESSARY CHARACTERISTICS

× Observable

- + The behavior can actually be seen
- + It is not something that is underlying and assumed to be occurring

× Measurable

- + The behavior can actually be measured or rated

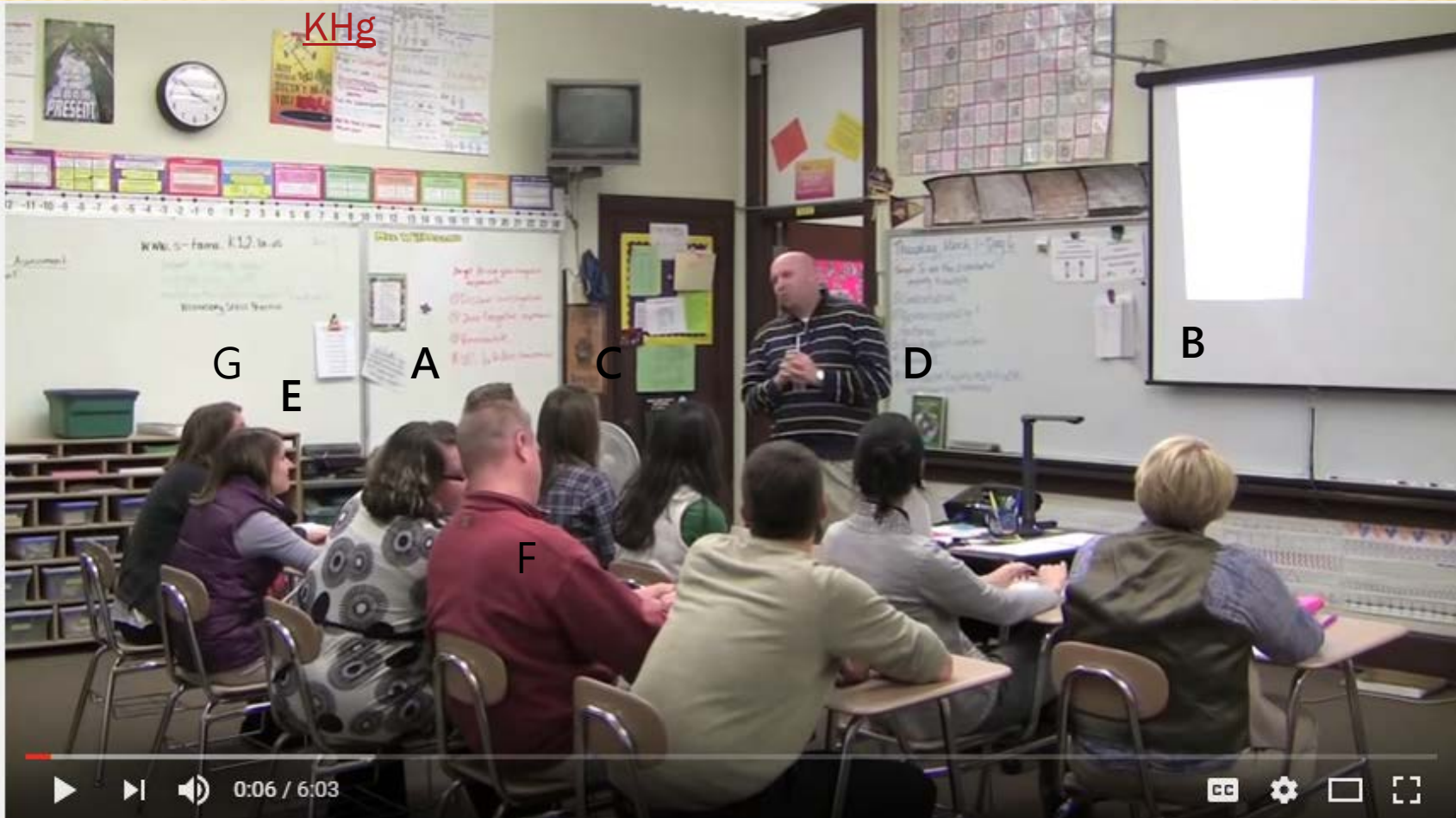
× Well Defined

- + The behavior is operationally defined - objective and simple so that two or more people can agree when the behavior occurs.

CLASSROOM OBSERVATION

http://www.youtube.com/watch?v=OP2_hBZX

[KHg](#)



▶ ⏪ 🔊 0:06 / 6:03

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TARGET BEHAVIOR EXAMPLES

✘ Good Examples

- + Noncompliance
 - ✘ not following directions
 - ✘ defiance/refusal
- + physical aggression
- + talking out
- + Out of seat
- + swearing
- + tardy/absent
- + work completion
- + off -task*

✘ Poor Examples

- + disrespectful
- + doesn't take responsibility
- + lacks motivation
- + bad attitude
- + lacks self-esteem
- + out of control

CLASSROOM OBSERVATION

http://www.youtube.com/watch?v=OP2_hBZX

KHg



METHODS OF DATA COLLECTION

- ✘ How you collect data is often determined by the characteristics of the behavior.
 - + High Frequency
 - ✘ Out of seat, off-task, non-compliance, work completion, etc.
 - + Low Frequency
 - ✘ Physical aggression, tantrums, absences

METHODS OF DATA COLLECTION

× Common methods:

+ Direct observation

- × Watching and recording the frequency, duration, intensity, etc. of behavior

+ Ratings – often contracts

- × More subjective recording of a behavior – often intensity – usually over a prescribed period of time

+ Anecdotal Reports

- × Usually not preferable but sometimes the only way to record very low incident behavior – also can give detailed characteristics or qualities of a behavior

METHODS OF DATA COLLECTION

× Direct observation

- + Watching and recording the frequency, duration, intensity, etc. of behavior
- + Often the best way to get accurate data.
- + Time intensive
 - × Taking data continually is not practical, so interval sampling is a good alternative.
- + Staff intensive
 - × Requires someone dedicated to take data and doing nothing else during that time.

OUTCOME DATA COLLECTION METHODS

- ✘ Points on contract
- ✘ Percentage of time on-task
- ✘ Number of days/minutes in or out of class
- ✘ Frequency counts (how many times behavior occurred)
- ✘ Duration (how long behavior occurred)
- ✘ Number of completed assignments
- ✘ Number of incidents/office referrals

DATA COLLECTION TOOLS OBSERVATION

GRANITE SCHOOL DISTRICT BEHAVIOR OBSERVATION FORM

BD Referral _____
LD Referral _____

Target Student _____ M/F _____ Grade _____ Date _____
School _____ Teacher _____
Observer _____

Position _____ Time Started _____ Time Ended _____
Class Activity _____ A. Teacher directed whole class _____ B. Teacher directed small group _____ C. Independent work session _____

Directions: 10 second intervals: Observe each student once then record data. Alternate comparison children after each 10-second interval. This is a partial interval recording. If possible, collect full 15-minutes under teacher directed or independent condition. If not, put a slash when classroom conditions change. Classmates observed must be same sex as target student.

Target																				
*																				

★ Classmate of the same sex

Target																				
*																				

★ Classmate of the same sex

Target																				
*																				

★ Classmate of the same sex

Target																				
*																				

★ Classmate of the same sex

Target																				
*																				

★ Classmate of the same sex

* Note: To observe class-begin with the first same sex student in row 1. Record each subsequent same sex student in following intervals. Data reflects an average of classroom behavior. **SKIP UNOBSERVABLE STUDENTS.**

CODES

- **On-task:** Eye contact with teacher or task and performing the requested task.
- T **Talking out/Noise:** Inappropriate verbalizations or making sounds with object, mouth, or body.
- O **Out of seat:** Student fully or partially out of assigned seat without teacher permission.
- I **Inactive:** Student not engaged with assigned task and is passively waiting, sitting, etc.
- N **Noncompliance:** Breaking a classroom rule or not following teacher directions within 15 seconds.
- P **Playing with object:** Manipulating objects without teacher permission.
- + **Positive Teacher Interaction:** One-on-one positive comment, smiling, touching, or gesture.
- **Negative Teacher Interaction:** One-on-one reprimand, implementing negative consequence, or negative gesture.
- / **Neutral Teacher Interaction:** One-on-one expressionless teacher interaction, no approval or disapproval expressed, directions given.

Interview teacher: Was target student's performance typical? _____ Y _____ N
Does the student appear able to perform the assignment? _____ Y _____ N

Clear Classroom Expectations: Posted Classroom Rules? _____ Y _____ N
Planned Consequences? _____ Y _____ N
Is there a student progress feedback system? _____ Y _____ N

Comments: _____

Summary: Target student: % on-task _____ # Positive _____ # Negative _____
Class comparison: % on-task _____ # Positive _____ # Negative _____

Comments: _____

Average On-task Percentages

	BD	LD	Non-handicapped
First Grade	70.2	75.7	80.42
Second Grade	42.4	78.7	81.9
Third Grade	73.9	70.0	81.7
Fourth Grade	55.45	80.95	83.17
Fifth Grade	75.35	86.1	81.95
Sixth Grade	56.8	73.3	78.57
Seventh Grade	59.7	75.3	79.7
Eighth Grade	60.3	75.8	83.7
Ninth Grade	84.9	79.9	83.5
Tenth Grade	70.2	87.1	83.9
Eleventh Grade	73.0	86.1	80.9

% On-task (target)
On-task / # of intervals (90)

Purpose:

1. An analysis of the behavioral data allows 1
Comparison of referred student with class;
Assessment of classroom disciplinary syst
Sampling of academic programming/student response.
Designing of in-class interventions.
2. **ONE** fully completed form meets LD evaluation requirements (State Rules A-6 c. 2)
THREE fully completed form meets BD evaluation requirements (State Rules A-30 c.1)

DATA COLLECTION TOOLS- SCATTERPLOT

Scatter Plot Data Sheet

Student Name: _____ Teacher: _____ Week of: _____ Name of Observer: _____

Purpose of the Form: To track the occurrence of target behaviors and replacement behaviors over an interval of time (Partial interval recoding). Directions: Identify behaviors (in specific, observable, measurable terms) and list on the key. For each period of time, as the behavior occurs, circle the number corresponding with the behavior.

	7:30-7:45	7:45-8:00	8:00-8:15	8:15-8:30	8:30-8:45	8:45-9:00	9:00-9:30	9:30-9:45	9:45-10:00	10:00-10:15	10:15-10:30	10:30-10:45	10:45-11:00	11:00-11:15	11:15-11:30	11:30-11:45	11:45-12:00	12:00-12:15	12:15-12:30	12:30-12:45	12:45-1:00	1:00-1:15	1:15-1:30	1:30-1:45	1:45-2:00	2:00-2:15
Monday	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Tuesday	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Wednesday	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Thursday	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Friday	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

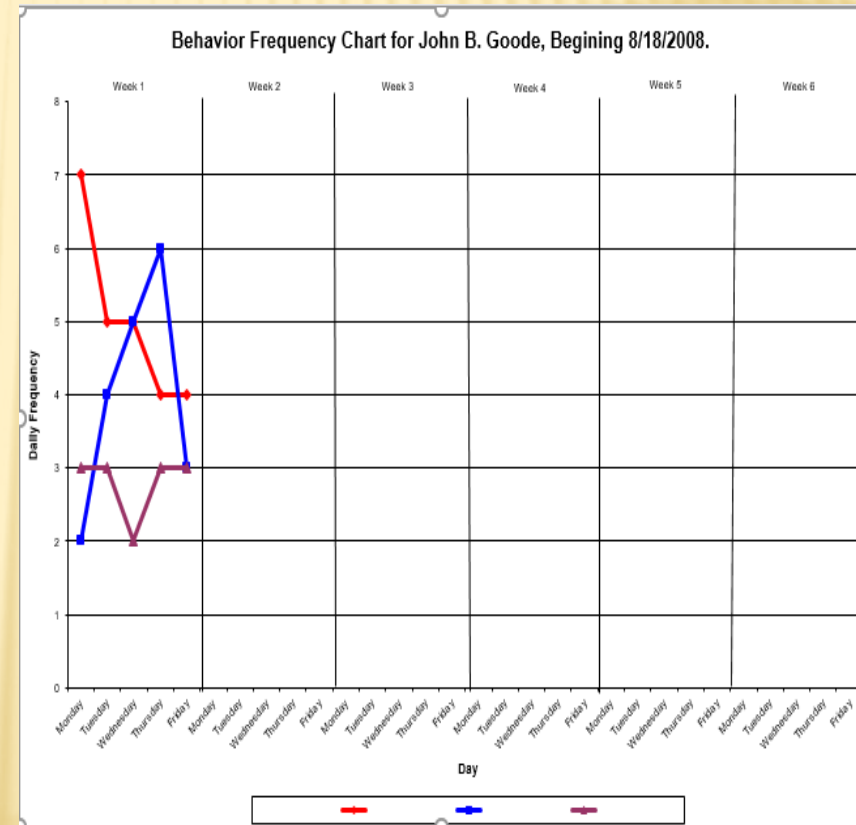
Target Behavior or Replacement Behavior (clearly specific, observable, measurable terms):

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____

DATA COLLECTION TOOLS FREQUENCY GRAPH

Frequency Graph - Excel

Behavior Frequency Data	Day of Week				** Enter daily ratings in blue boxes only.
WEEK 1	Monday	7	2	3	Student: John B. Goode
	Tuesday	5	4	3	Teacher: Ms. Bumblebee
	Wednesday	5	5	2	Grade: 4
	Thursday	4	6	3	DATE: 8/18/2008
	Friday	4	3	3	Behavior:
WEEK 2	Monday				
	Tuesday				
	Wednesday				
	Thursday				
	Friday				
WEEK 3	Monday				Comments:
	Tuesday				
	Wednesday				
	Thursday				
	Friday				



DATA COLLECTION TOOLS- ABC FORM

Antecedent/Behavior/Consequence Form (ABC)

+			
Student		School	Grade
Behavior to be Observed:			
Date: Today's date Start Time: Time of antecedent End Time: Time behavior discontinued Activity: Designated activity People: People involved Place: Where the behavior occurred	What happened before? The exact events preceding the unexpected behavior. (Antecedent)	What happened? A description of the unexpected behavior in observable terms. (Behavior)	What happened after? The exact events following the unexpected behavior. (Consequence)
Date: Start Time: End Time: Activity: People: Place:			
Date: Start Time: End Time: Activity: People: Place:			
Date: Start Time: End Time: Activity: People: Place:			

Student Name: _____ School: _____ Observer: _____

This A-B-C data sheet is designed as a checklist tool which can help identify potential antecedents (precursors) and consequences which may be maintaining the target behavior. A-B-C data should be collected until a pattern emerges, typically no fewer than 3-to consecutive days. This checklist can be modified to include student-specific information.

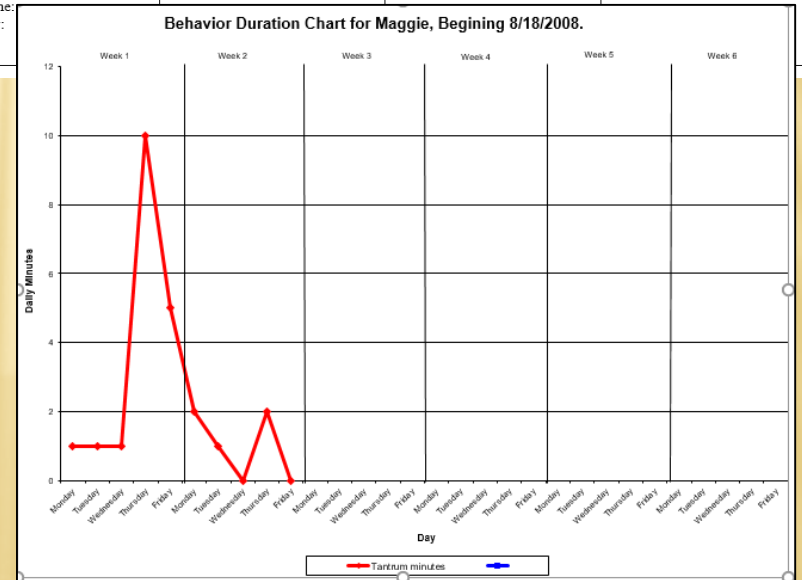
	Antecedent (What happens before the behavior?) Check all that apply	Behavior (What happened?) Check all that apply	Consequences (What happened after?) Check all that apply
Date:	<input type="checkbox"/> Given direction/task/activity <input type="checkbox"/> Asked to wait <input type="checkbox"/> New task/activity <input type="checkbox"/> Difficult task/activity <input type="checkbox"/> Preferred Activity interrupted <input type="checkbox"/> Activity/Item denied(told no) <input type="checkbox"/> Loud, noisy environment <input type="checkbox"/> Given assistance/correction <input type="checkbox"/> Transition between location/activities <input type="checkbox"/> Attention not given when wanted <input type="checkbox"/> Left alone(no indiv. Attention) <input type="checkbox"/> Left alone (no approp. Activity) <input type="checkbox"/> Other _____	<input type="checkbox"/> Refusing to follow directions <input type="checkbox"/> Making verbal threats <input type="checkbox"/> Disrupts class(describe): _____ <input type="checkbox"/> Crying/Whining <input type="checkbox"/> Screaming/Yelling <input type="checkbox"/> Scratching <input type="checkbox"/> Biting <input type="checkbox"/> Spitting <input type="checkbox"/> Kicking <input type="checkbox"/> Flopping <input type="checkbox"/> Running away/bolting <input type="checkbox"/> Destroying property <input checked="" type="checkbox"/> Flipping furniture <input type="checkbox"/> Hitting self <input type="checkbox"/> Hitting others <input type="checkbox"/> Verbal refusal <input type="checkbox"/> Other _____	<input type="checkbox"/> Verbal redirection <input type="checkbox"/> Physical assist/prompt <input type="checkbox"/> Ignored Problem behavior <input type="checkbox"/> Kept demand on <input type="checkbox"/> Used proximity control <input type="checkbox"/> Verbal reprimand <input type="checkbox"/> Removed from activity/location <input type="checkbox"/> Given another task/activity <input type="checkbox"/> Interrupted/blocked and redirected <input type="checkbox"/> Left alone <input type="checkbox"/> Isolated within class <input type="checkbox"/> Loss privilege <input type="checkbox"/> Calming/soothing: Verbal/physical/both <input type="checkbox"/> Time-out (duration): _____ <input type="checkbox"/> Other _____

DATA COLLECTION TOOLS DURATION

Behavior Duration Data	Day of Week	Tantrum minutes		** Enter daily <i>minutes</i> in blue boxes only.
WEEK 1	Monday	1		Student: Maggie
	Tuesday	1		Teacher: Ms. Bumblebee
	Wednesday	1		Grade: 4
	Thursday	10		DATE: 8/18/2008
	Friday	5		Behavior:
WEEK 2	Monday	2		
	Tuesday	1		
	Wednesday	0		
	Thursday	2		
	Friday	0		
WEEK 3	Monday			Comments:
	Tuesday			
	Wednesday			
	Thursday			
	Friday			

Antecedent/Behavior/Consequence Form (ABC)

Student	School	Grade
Behavior to be Observed:		
Date: Today's date Start Time: Time of antecedent End Time: Time behavior discontinued Activity: Designated activity People: People involved Place: Where the behavior occurred	What happened before? The exact events preceding the unexpected behavior. (Antecedent)	What happened? A description of the unexpected behavior in observable terms. (Behavior)
What happened after? The exact events following the unexpected behavior. (Consequence)		
Date:		
Start Time:		
End Time:		
Activity:		
People:		
Place:		
Date:		
Start Time:		
End Time:		
Activity:		
People:		
Place:		
Date:		
Start Time:		
End Time:		
Activity:		
People:		
Place:		



DATA COLLECTION TOOLS- EMERGENCY CONTACT FORM

Granite School District EMERGENCY CONTACT FORM

If an emergency situation occurs that requires the immediate use of highly intrusive individual interventions to protect the student or others from harm, the staff shall complete and submit the emergency contact information to the LEA and notify the student's parents within 24 hours. (Utah State Office of Education Rules III 1 (b)(5)(c)).

Student Name: _____ Occurrence #: _____
 Teacher: _____ Date: _____
 School: _____ Grade: _____ DOB: _____
 Staff in Attendance: _____

1. What were the circumstances surrounding the incident?

Activity	Location	Time of Day

2. Describe the incident/event

Antecedent (Activity/event that occurred before the behavior)	Behavior (Measurable and observable)	Time of Day

3. What Intensive (highly intrusive) individual intervention(s) were used?

Intervention Procedures	Duration of Intervention	Staff Member(s) Involved

Granite School District EMERGENCY CONTACT FORM

4. Were there any injuries?

If yes, describe

--

5. What could be done to prevent this from happening again?

Preventative Proactive Intervention(s)	Steps Needed to Implement Intervention(s)

6. Does the student have a current Functional Behavior Assessment (FBA) and Behavior Intervention Plan (BIP)?
 Yes No

7. Parent(s) notified (within 24 hours): In Person By Phone In Writing

Person Notifying Parent: _____ Time: _____

 Signature of Person Completing Form Date

 Signature of LEA Date

Staff must notify parents within 24 hours of the use of emergency intervention procedures. Staff shall complete and submit the emergency contact information to the LEA/Special Education Director within 24 hours.

Staff should refer to specific LEA policies on the continued usage of emergency interventions.

Best practice suggests that emergency interventions can occur no more than once per week, two times in a month, or a total of four times in a year. If the frequency of the student behavior required emergency behavior intervention exceeds these limits, modifications need to be made to the IEP, existing BIP or a new BIP should be considered. Upon request parent(s) should be provided a copy of the emergency contact form.

PROCEDURES OF DATA COLLECTION

- + Baseline Data Collection
- + ABC's of Behavior
- + Functions of Behavior

BASELINE DATA

- ✘ What is happening before an intervention is put into place?
- ✘ Starting place to measure intervention effectiveness
- ✘ Unfortunately, schools sometimes skip taking baseline data because of perceived need of intervention
 - + How do you know what intervention to implement without good understanding of the behavior?
 - + How do you know your intervention is working?

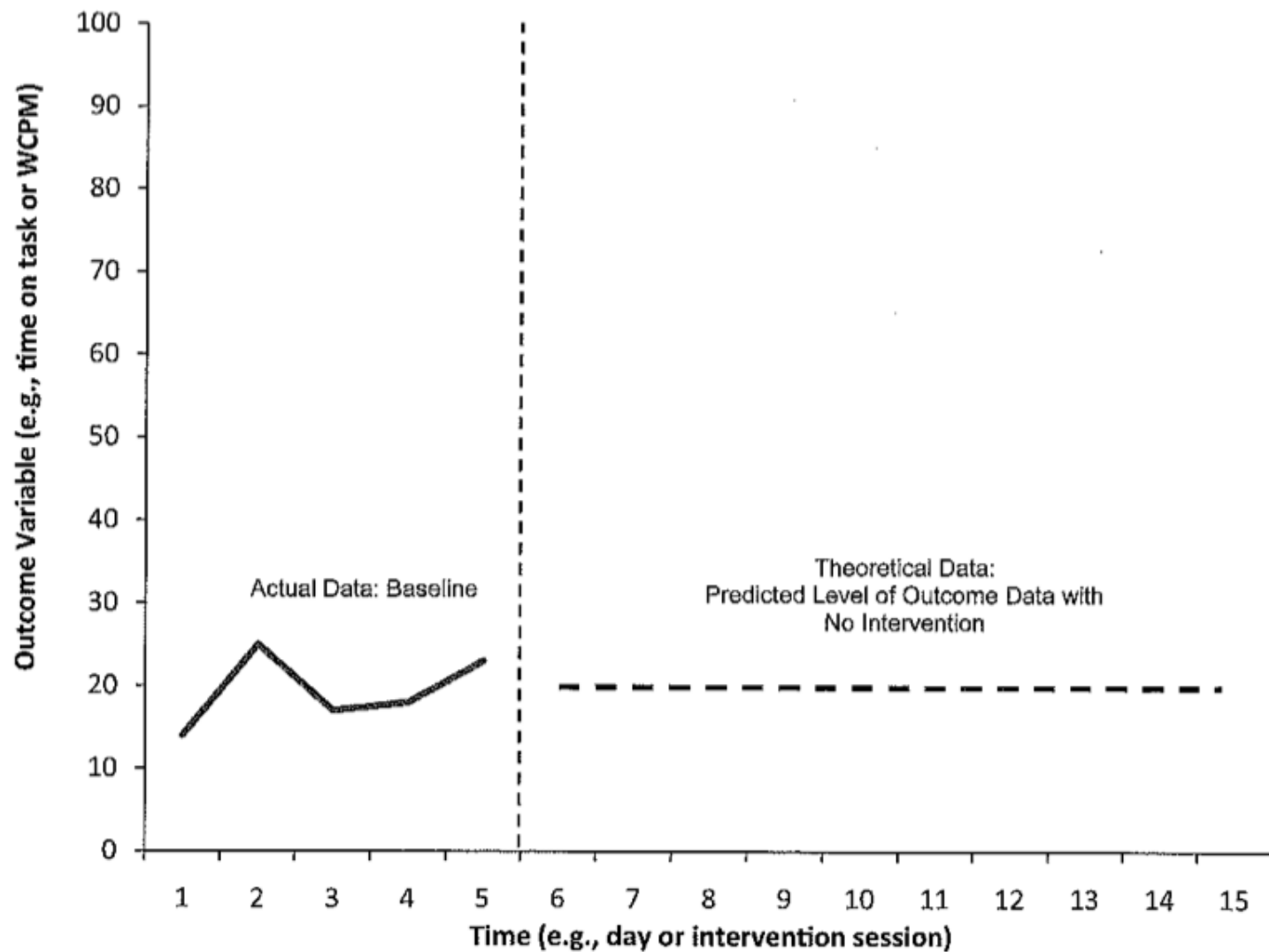


FIGURE 2.1. Baseline logic: Prediction. Adapted from Cooper, Heron, and Heward (2007). Copyright 2007 by Pearson Education, Inc. Adapted by permission.

INTERVENTION DATA

- ✘ Measures the frequency, duration, latency, intensity, function, rate or percentage of the observable behavior to determine increase or decrease of desirable behavior.
- ✘ Can be compared with baseline data points or other interventions data points to determine effectiveness of the new strategies.

EVALUATING EDUCATIONAL INTERVENTIONS

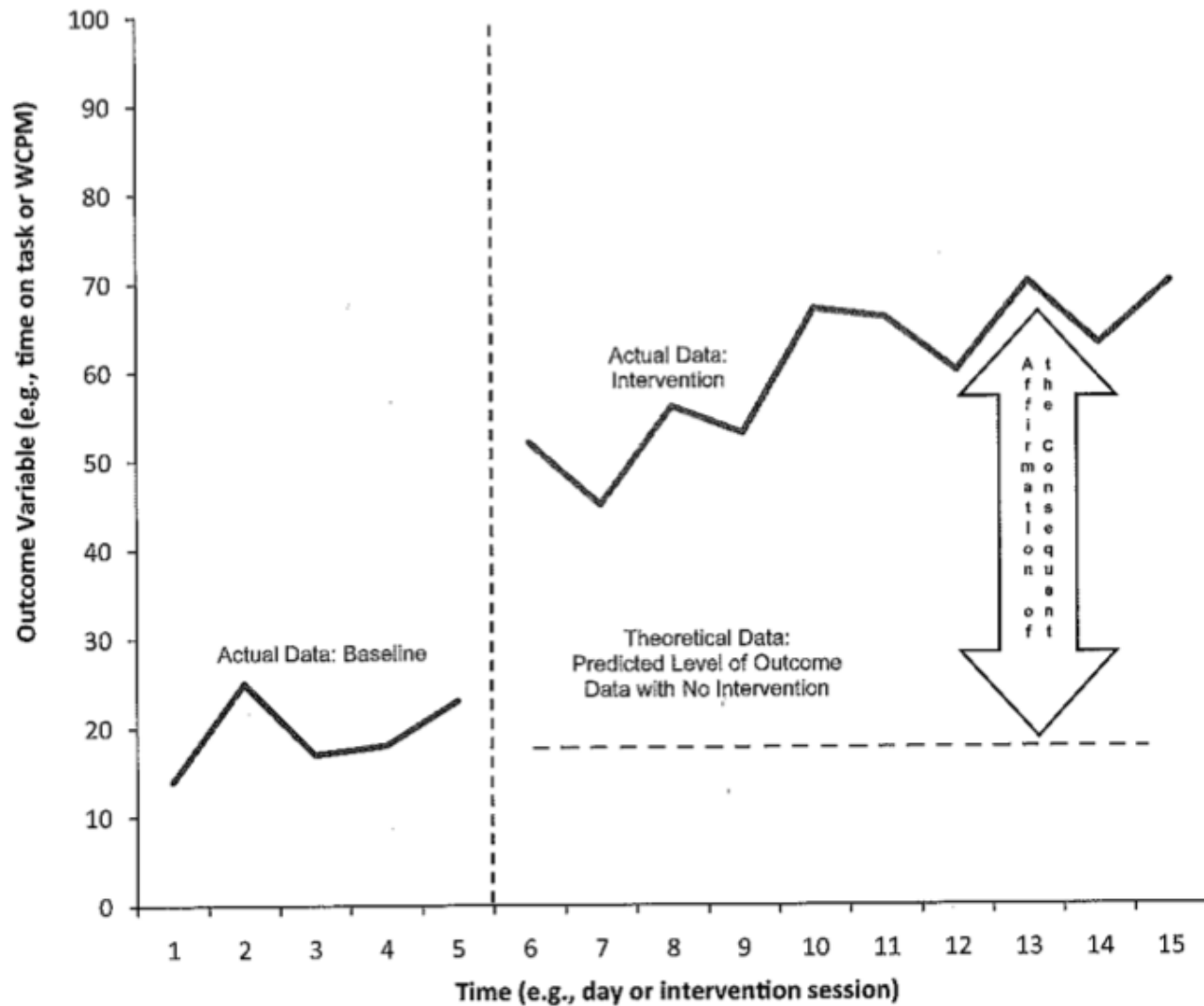


FIGURE 2.2. Baseline logic: Affirmation of the consequent. Adapted from Cooper, Heron, and Heward (2007). Copyright 2007 by Pearson Education, Inc. Adapted by permission.

A-B-C'S OF UNDERSTANDING BEHAVIOR

- × Setting Event
- × Antecedent
 - + What happens before the behavior occurs?
- × Behavior
 - + What is the behavior?
- × Consequence
 - + What happens after the behavior occurs?

FUNCTIONS OF BEHAVIOR

- ✘ Current models of functional behavior assessment (FBA) agree to these functions of behavior:
 - + Escape/Avoid
 - + Attention
 - + Tangible
 - + Automatic Reinforcement (sensory stimulation)
- ✘ Understanding the function allows intervention to be customized and more accurately targeted.

GROUP ACTIVITY

In each of the following clips:

- ✘ Discuss the ABC's of the behaviors
- ✘ Develop a hypothesis for the function of the behavior

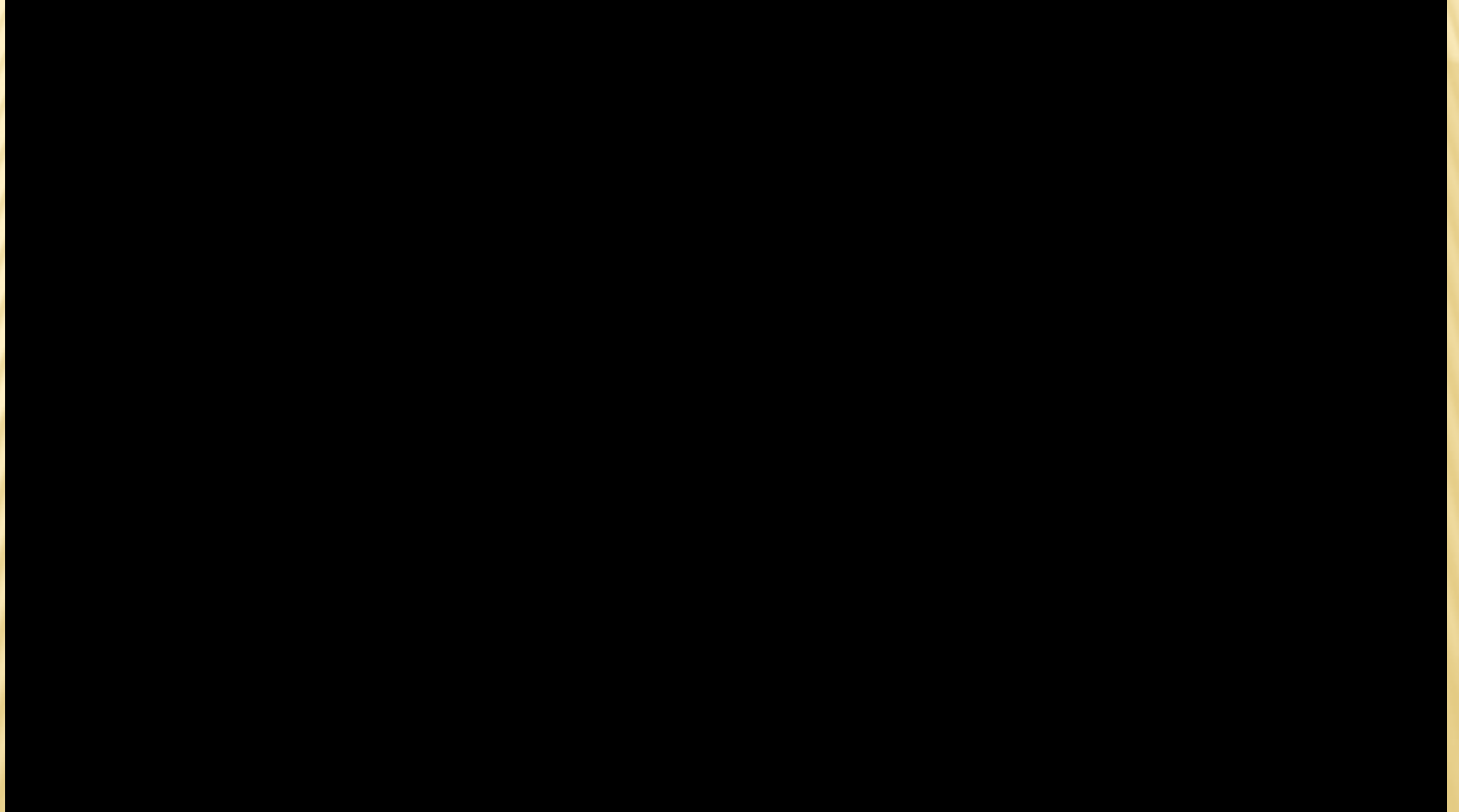
If you were the BHA assigned to work with these students which antecedent strategies discussed last month do you think would be effective?

WHAT'S THE FUNCTION?



crybaby1_1.mov

WHAT IS THE FUNCTION ?



Group Activity: Exit Ticket

Discuss the ABC's of the behaviors

Develop a hypothesis for the function of the behavior

As the BHA assigned to work with each student which antecedent strategies discussed last month do you think would be effective? *Positive Relationships, Positive Reinforcement, Proximity, pre correcting, redirecting, behavior momentum*

Examples:	Antecedent	Behavior	Consequence	Function	Form for data collection	Antecedent strategies
Crying						
Tantrum						
Teacher Altercation						

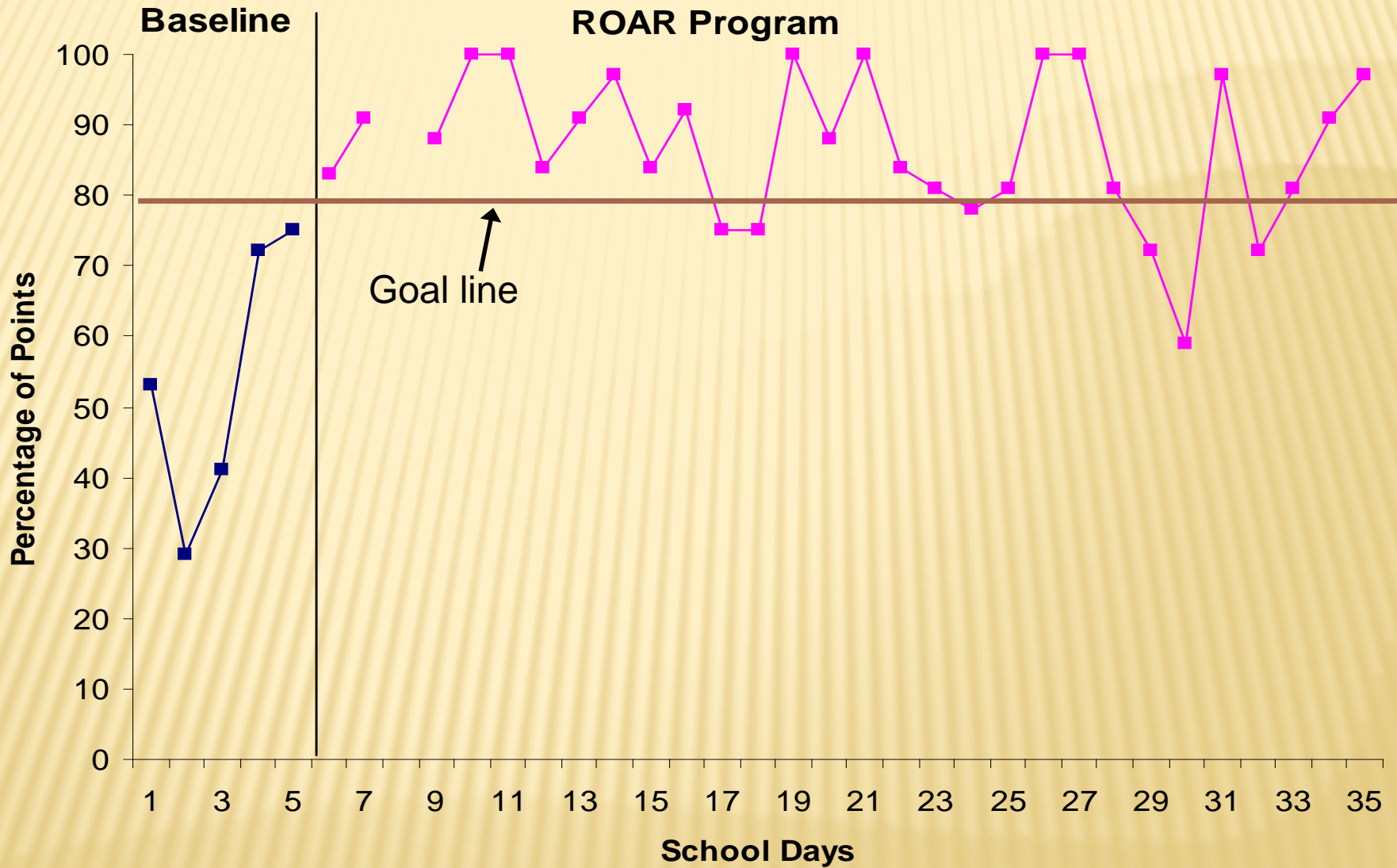
METHODS OF GRAPHING DATA

- ✘ Graph Paper
- ✘ Some packaged behavior management software
- ✘ Microsoft Excel

PURPOSE OF GRAPHING DATA

- ✘ Easier to see change/trends
- ✘ Allows comparison of behaviors (i.e., target and replacement behaviors)
- ✘ Allows comparison of behavior in different phases of intervention (baseline, intervention, revised intervention, post-intervention, etc.)
- ✘ Be responsible in its presentation

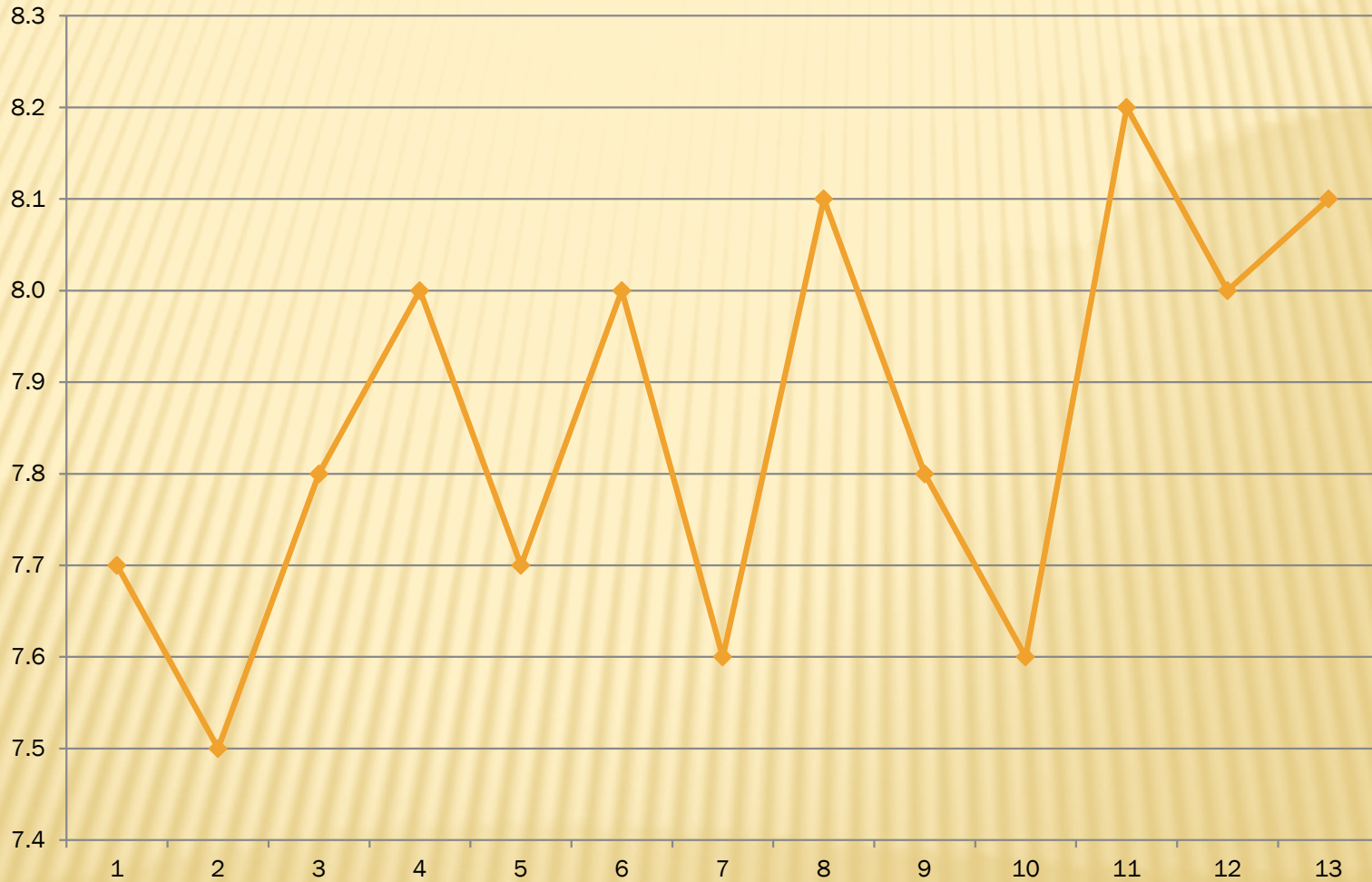
Wild Card Data for Student A



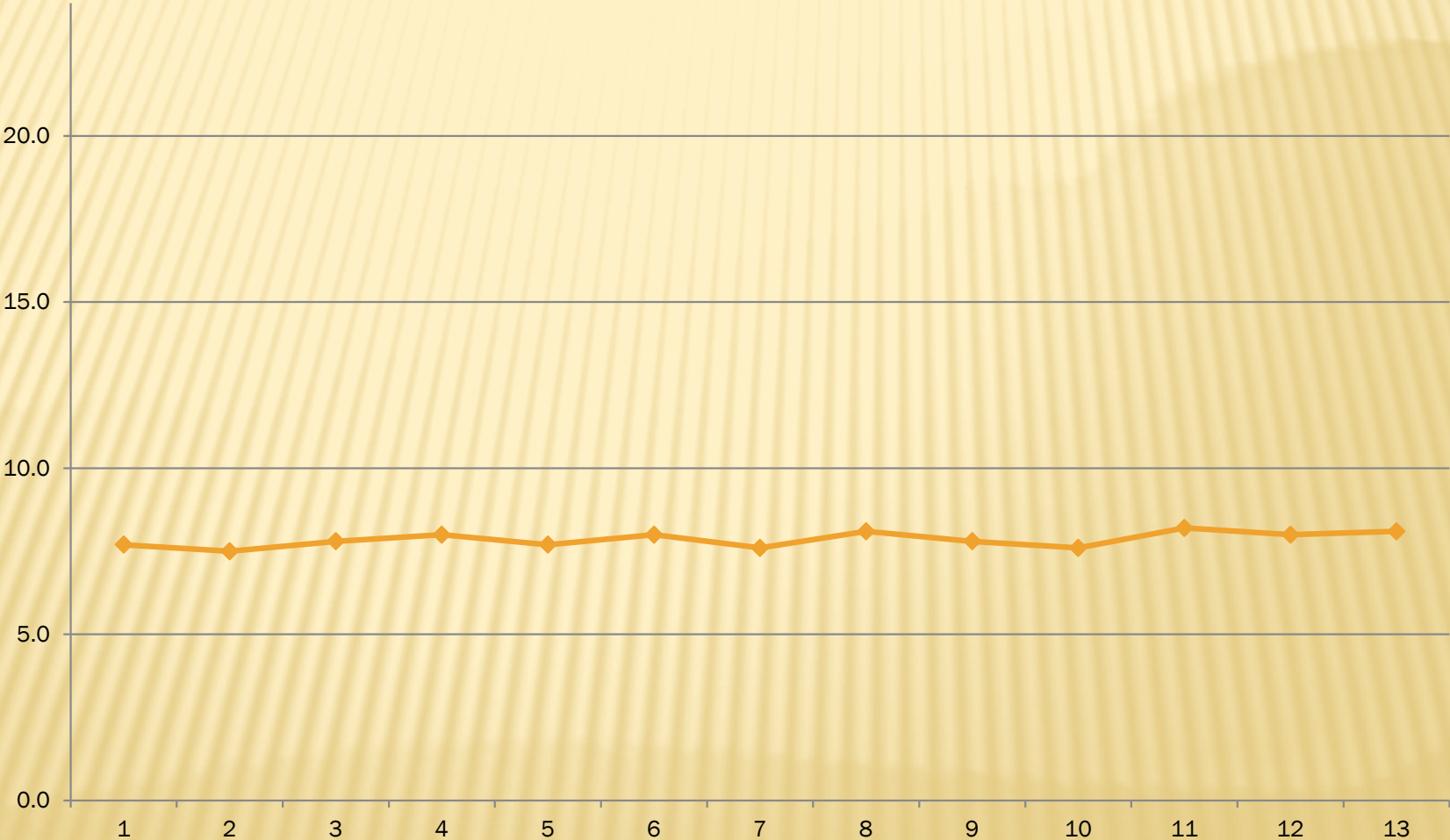
HOURS OF SLEEP PER DAY

Hours of Sleep Per Day	
Day 1	7.7
Day 2	7.5
Day 3	7.8
Day 4	8.0
Day 5	7.7
Day 6	8.0
Day 7	7.6
Day 8	8.1
Day 9	7.8
Day 10	7.6
Day 11	8.2
Day 12	8.0
Day 13	8.1

HOURS OF SLEEP PER DAY



HOURS OF SLEEP PER DAY



OBJECTIVES

- ✘ Understand what data is.
 - + Data is information.
- ✘ Understand the purpose of data collection.
 - + It helps in meaningful decision making.
- ✘ Understand types of data to be collected.
 - + Frequency, Duration, Latency, Intensity, Function, Percentage

OBJECTIVES

- ✘ Understand methods of data collection
 - + Direct observation, ratings, anecdotal reports
- ✘ Review methods of graphing data
 - + Graph Paper, behavior management products, Microsoft Excel

QUESTIONS?

