



# PROJECT NOAH'S ARK

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The day is \_\_\_\_\_  
The month is \_\_\_\_\_  
The year is \_\_\_\_\_  
The weather is \_\_\_\_\_  
The helper is \_\_\_\_\_  
Mathew saw 3 fire hydrants  
on his way home. Nicholas saw  
3 too. And Cade saw 3. How  
many did they see all together?

# Presentation Outline

- Project Description
- RAFT (Resources Area For Teaching)
- Problem Scope and Population
- Interviews and Research
- User Need
- Existing Solutions
- Design Approach and Concepts
- Our Solution
  - “Math Blast”



# PROJECT DESCRIPTION

We made RAFT more accessible to special education teachers through redesigning the website and through creating an activity kit for students with disabilities

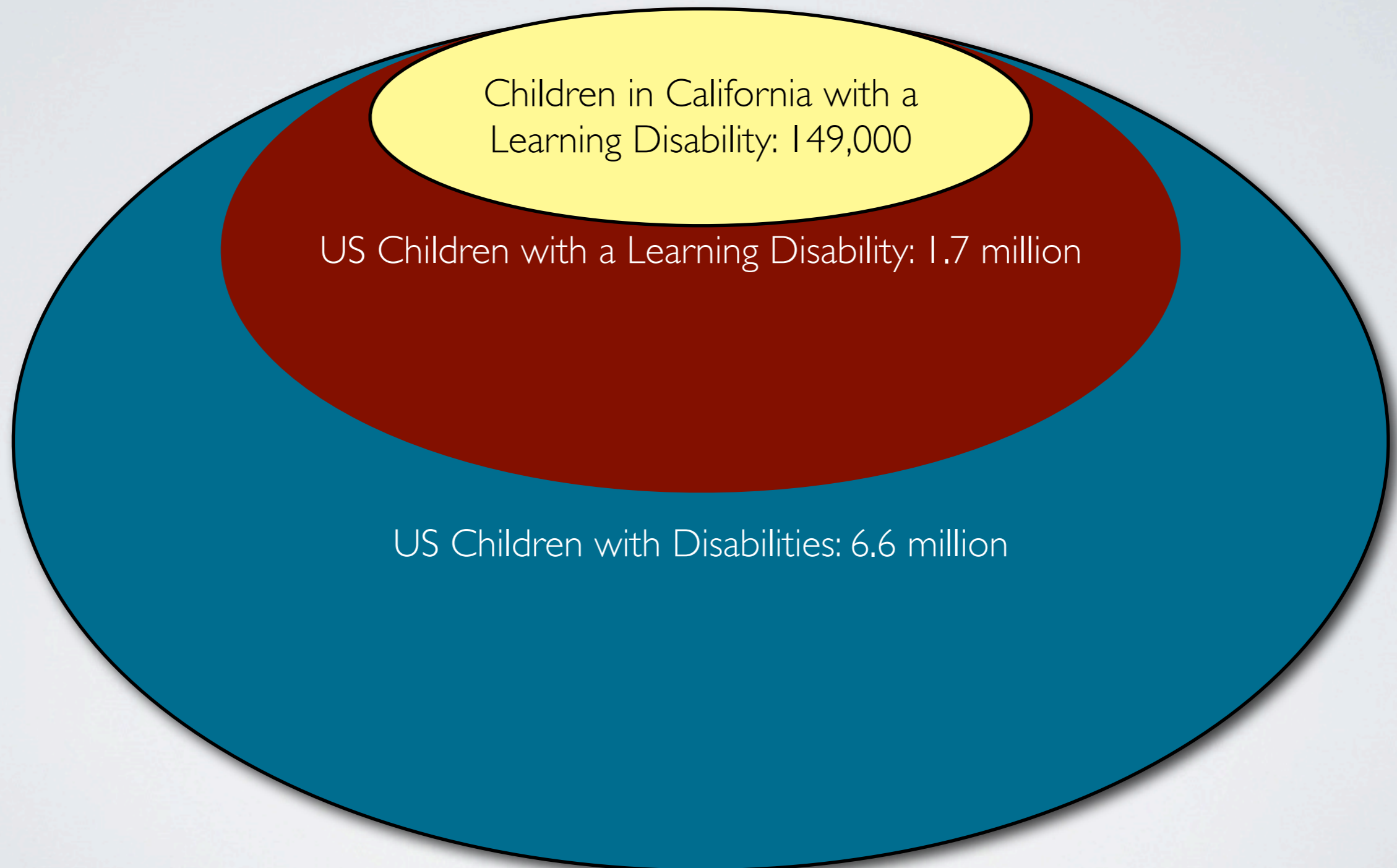


# RAFT BACKGROUND

- Resource Area for Teaching
- Hands-on learning
- Provides idea sheets, classroom kits, supplies, and resource staff
- Extremely affordable for teachers
- Currently does not address special needs students



**The Problem:** RAFT is not currently organized as a strong resource for special education teachers.



Statistics from: <http://www.ilr.cornell.edu/edi/disabilitystatistics/reports/acs.cfm?statistic=1> and <http://www.educationbug.org/a/special-education-statistics.html>

# STATEMENT OF NEED

*affordable, targeted educational systems for children with disabilities.*

```
graph TD; A[Adapt current RAFT kit] --> B[Students with disabilities]; A --> C[Universal]; D[Create new RAFT kit] --> B; D --> C; B --> E[Develop integrative strategy]; C --> E;
```

Adapt current RAFT kit

Create new RAFT kit

Students with disabilities

Universal

Develop integrative strategy

"When children need extra support it is usually because of a lack of manual dexterity - they can't use scissors, it's hard to use a crayon."  
-Cindy Howard, Kindergarten, Special Day Class

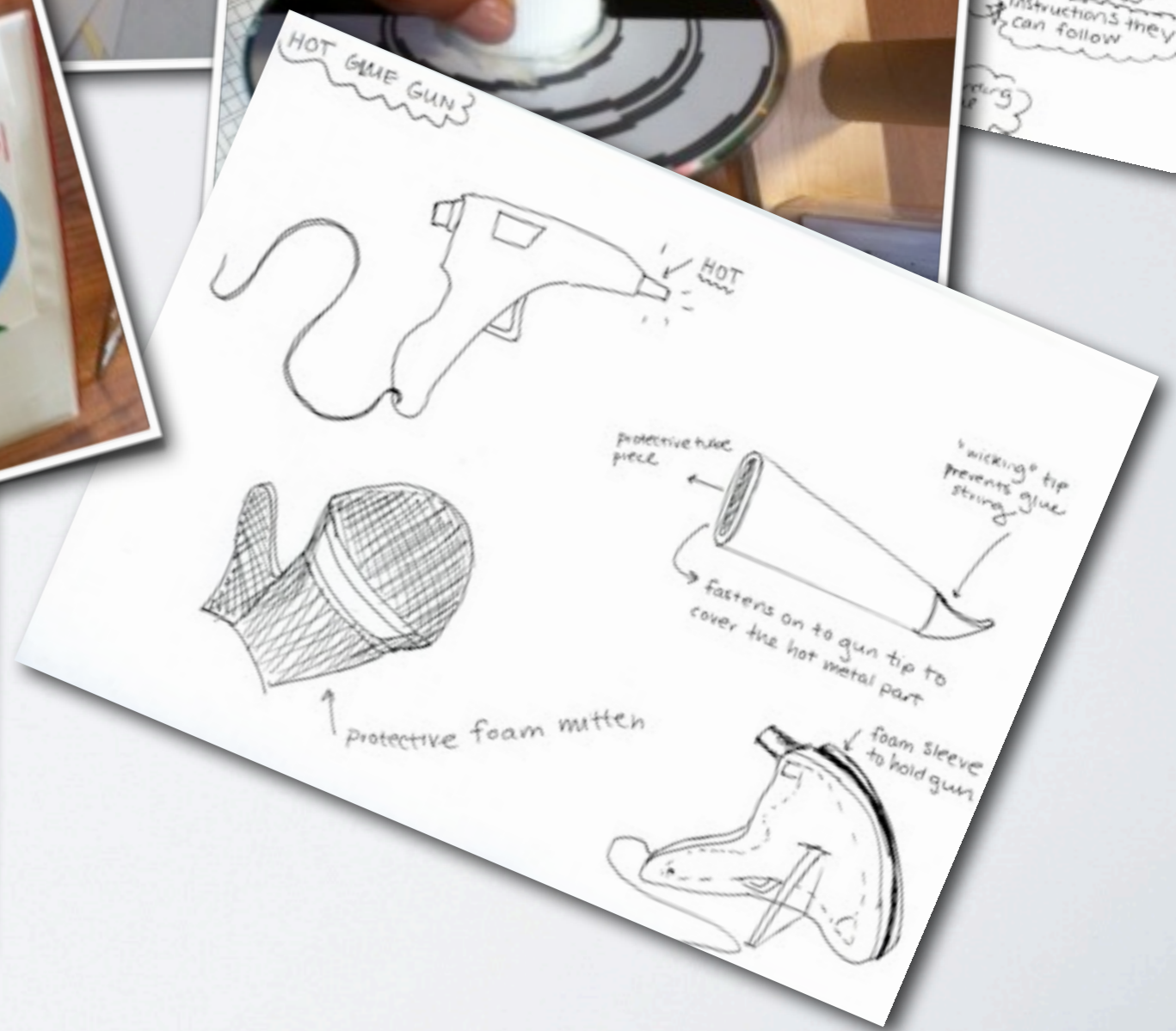
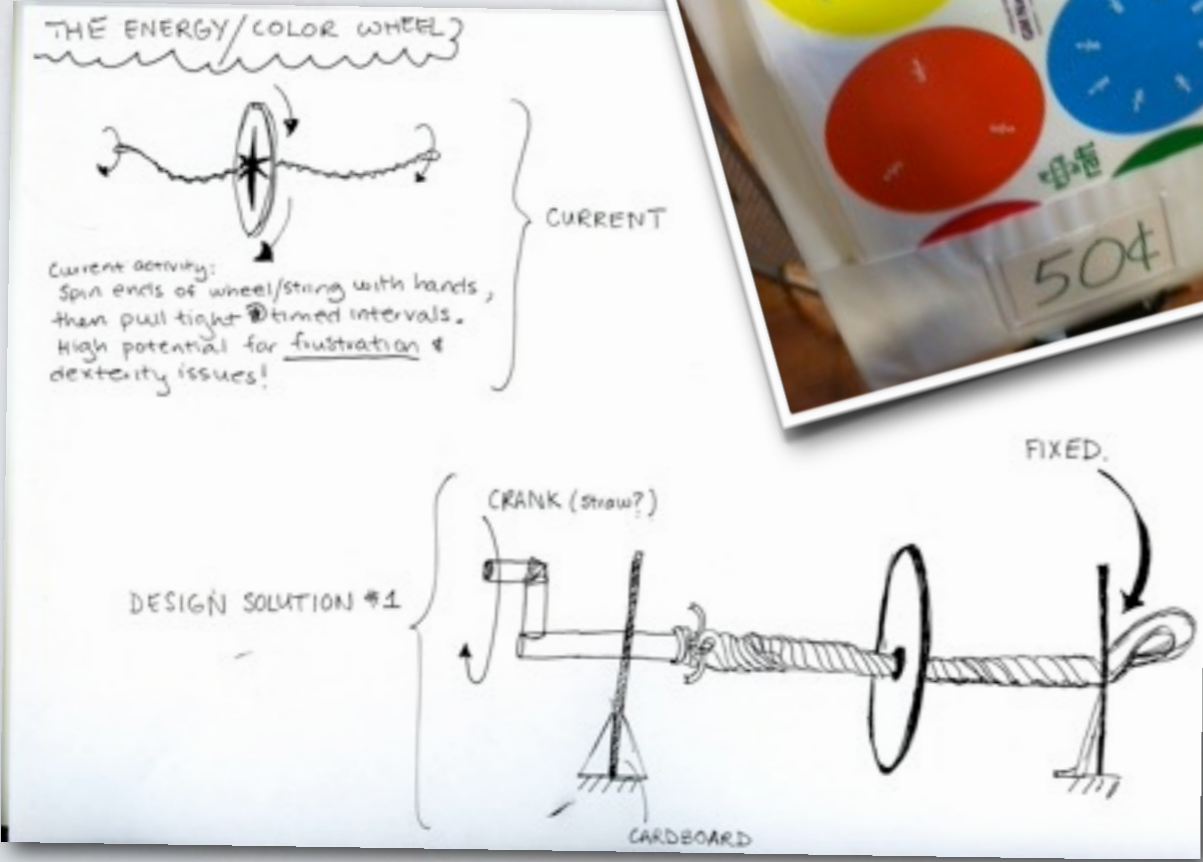
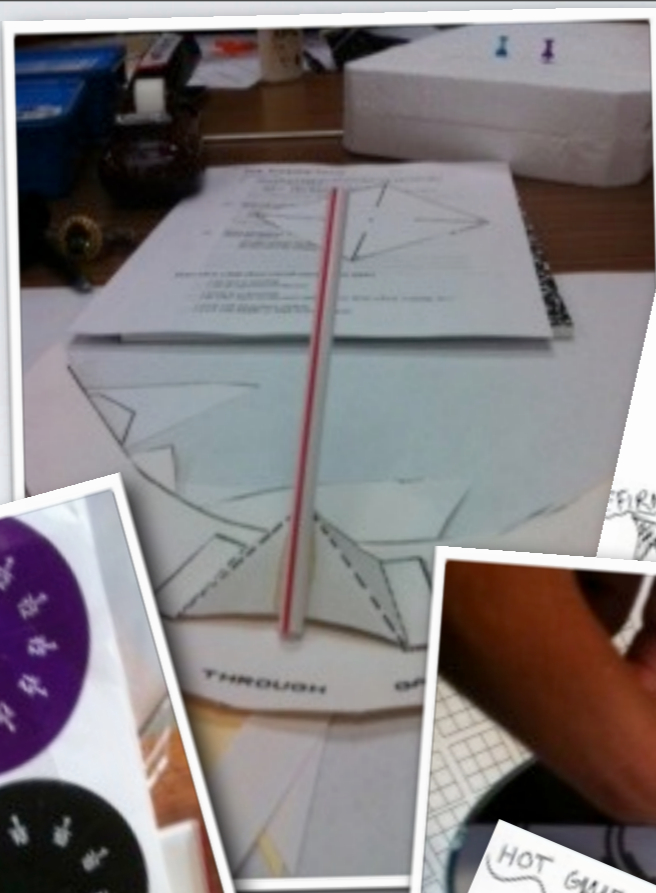
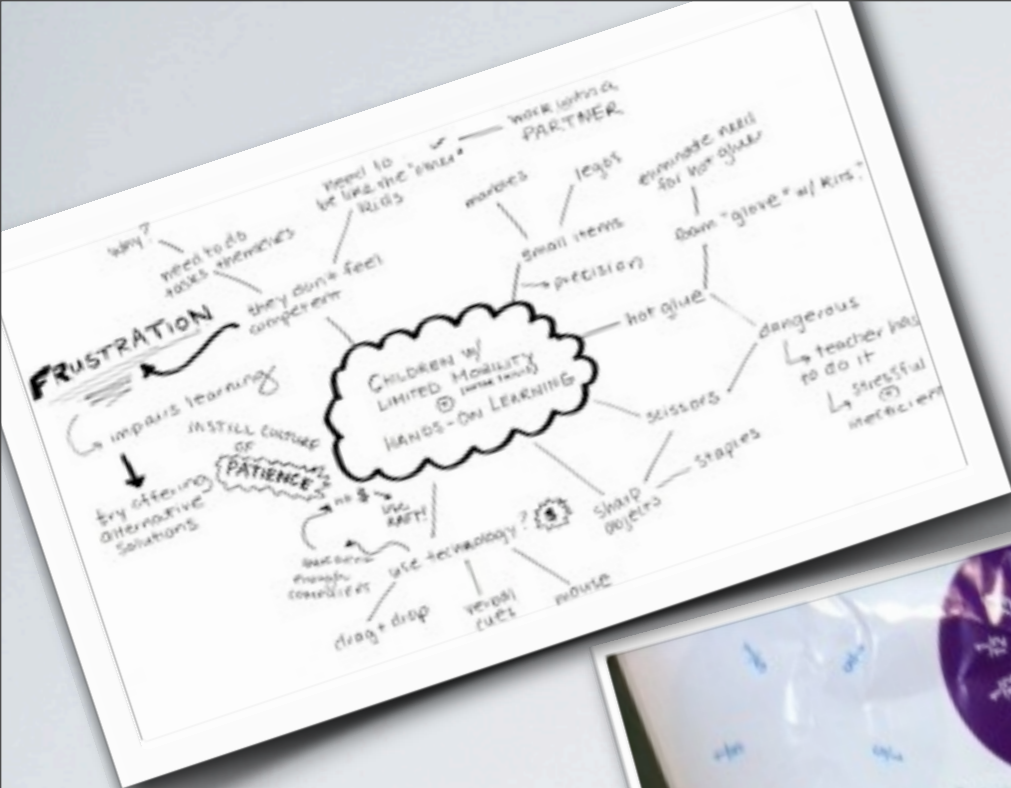
"High-cognitive low-social students get frustrated easily - they need to feel competent."  
-Linda Herreshoff, 7th-8th grade

"I love teaching with hands-on activities, but I hate having to prep them. Especially with 40 kids..."  
-Nancy, 4th grade art and science



Safety concerns  
Low-prep, clean-up  
Kids are surprisingly helpful with peers!





# Clocks Rock!



teaches students digital and analog time

students can rotate clock hands to match digital clock cards, or write digital time to match clock face

## Feedback

- good, easy to use
- safe
- would be more useful if tied directly to curriculum
- not as dynamic for repetition

Ana Reyes, Lisa Jaregui, Barron Park Elementary. K - 2nd, 4th - 5th SDC



Carrie Widener, Escondido Elementary. 2nd & 3rd grade SDC

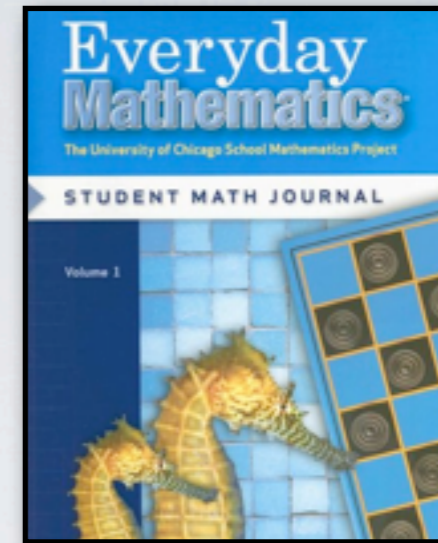


- SDC = Special Day Class, majority autistic
- 1:1, 1:2 teacher-student ratio
- Palo Alto, protected funding
- IEPs, personal binders, state curriculum standards
- Schedules/Calendar
- Routines, Rules, Structure-- same methods, different curriculum
- Aggression and Visual Cues

# EXISTING SOLUTION PITFALLS

## **RAFT**

Products with limited technological solutions, not well advertised, no disability focus.



Solutions and Guidebooks that are very popular because they are funded and supported by the state. However, they are not geared specifically for children with disabilities.

## **Everyday Math**



## **TouchMath**

Most expensive kits (ie \$150 per math kit), which does not fit into most teachers budgets.

# Math Blast

## Three Activities

(1) *Battleship Math*: a 2-person interactive game where kids need to guess the operation.

Mastermind with math!


2.) *Higher, Lower*: Helps kids develop an intuition about number quantities, addition, and subtraction.

3.) *Placeholders*: Students learn the concept of 10's, 100's, and 1000's

Date \_\_\_\_\_ Time \_\_\_\_\_

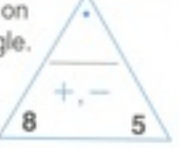
LESSON 2-12 Math Boxes

1. Write the doubles fact.



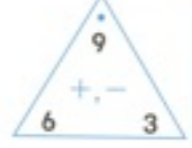
Number model:  
\_\_\_\_ + \_\_\_\_ = \_\_\_\_

2. Fill in the sum on the Fact Triangle. Write the fact family.



\_\_\_\_ + \_\_\_\_ = \_\_\_\_  
\_\_\_\_ + \_\_\_\_ = \_\_\_\_  
\_\_\_\_ - \_\_\_\_ = \_\_\_\_  
\_\_\_\_ - \_\_\_\_ = \_\_\_\_


3. Complete the fact family.



\_\_\_\_ = \_\_\_\_ + \_\_\_\_  
\_\_\_\_ = \_\_\_\_ + \_\_\_\_  
\_\_\_\_ = \_\_\_\_ - \_\_\_\_  
\_\_\_\_ = \_\_\_\_ - \_\_\_\_

4. Fill in the frames.

Rule: +7



5. The total cost is 75c. I pay with \$1.00. How much change do I get?

\_\_\_\_\_

6. Circle the digit in the hundreds place.

128                      972  
465                      2,425

forty-nine 49



# BENEFITS AND ADVANTAGES

- **Kit is simple, low prep, and low cleanup**
- **Multiple activities**
- **Encourages peer to peer interaction, but can also be solo**
- **Repetition and ownership of space**
- **Flexibility to frame to match IEPs**
- **Can adapt with advancing curriculum, meets state standards (Everyday Math)**
- **Adaptable to for mainstream classroom use**

# USER TESTING FEEDBACK

- **Versatility of math concepts**
- **Personal space for students**
- **Highly repetitive**
- **Promotes teamwork**

# FUTURE STEPS

- **Simple pictorial instructions**
- **Integration into specific curriculum (eg Everyday Math)**
- **Website development**



"I am a member of RAFT....I don't use it...you really need to be super creative and I just don't have the time to be with having to figure out a different curriculum [for every student]."  
-Ana

"I never really go....I feel like you need to know exactly what you want and how much you need, and be very structured, to use it".  
-Carrie

"I am a member of RAFT...what is an idea sheet?"  
- Sarah, behavioral specialist

However, we didn't just want our design to be the xth activity kit on RAFT shelves; we realized in our process that RAFT, in fact, has a ton to offer in the way of special education supplies. Clearly, there is an issue of accessibility.

*Therefore, we designed an addition to the RAFT website, to serve as an easy and effective resource to special education teachers.*

# EDUCATOR TOOLS

[FINANCIAL GIVING »](#)

Educator tools from RAFT breakdown into five main categories: idea sheets, activity kits, idea sheet videos, workshops, and the green room.

## Idea Sheets

Dive into RAFT's database of over 500 Idea Sheets to find the hands-on activity that is just right for your needs.

[BROWSE IDEA SHEETS](#)

## Activity Kits

See which RAFT Activity Kits are currently in stock at the RAFT location nearest you (San Jose or Redwood City, CA).

[BROWSE ACTIVITY KITS](#)

## Special Education Resources

Activity Kits, Idea Sheets, and Troubleshooting Advice for Special Education. Sort by curriculum standards or by learning challenges.

[BROWSE SPECIAL EDUCATION](#)

## Workshops

Browse the catalog of current RAFT workshops to find a session that will advance your career. Looking for computer



## Green Room

The Green Room has equipment that you can use and professionals to help you create quality classroom materials. We



## Activity Publications

We have 3 publications in our Creative Re-use Activity



# SPECIAL EDUCATION

[FINANCIAL GIVING »](#)



## In This Section

[Troubleshooting](#)

[Idea Sheets](#)

[Activity Kits](#)

[Search by Grade](#)

[Search by Need](#)

## RAFT can be a great resource for special education teachers or homeschooled students!

Activity Kits are hands-on learning projects that come with RAFT materials pre-packaged; Idea Sheets are RAFT designed projects like the Activity Kits, but you can just download the instructions and use your own materials.

The Activity Kits and Idea Sheets featured here are selected from our database under the following criteria

- \* easy facilitation; no significant prep time or cleanup
- \* enhanced safety; no safety pins, or hot glue
- \* adaptable; every child is different, and these activities can be individually tailored to their learning goals
- \* sort and search through the activities/idea sheets either by grade level, or by specific learning disability

Under "Troubleshooting" are resources to help adapt activities for special day classes, such as alternatives to hot glue. You can also submit your own advice as a resource for other teachers, and view upcoming special ed workshops.

### Activity Kits

[VIEW](#)

### Idea Sheets

[VIEW](#)

### Troubleshooting

[VIEW](#)

#### Educator Tools

- [Become a Member](#)
- [Idea Sheets](#)
- [Activity Kits](#)

#### Donate Materials

- [Material Guidelines](#)
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# QUESTIONS

