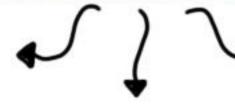
PROBLEM-SOLVING IS WHAT WE DO WHEN WE DON'T KNOW WHAT TO DO."

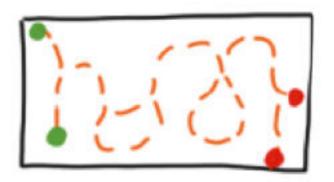
GIVE PROBLEM SOLVING TASKS

TRICKS



NUMERACY TASKS

HIGHLY ENGAGING THINKING TASKS



NONLINEAR MESSY NON-ROUTINE

## 5 MINUTES

### NON CURRICULAR TASKS

- START WITH THESE
- POSE AS CHALLENGES

### SCRIPTED CURRICULAR TASKS

- SWITCH TO THESE
- -POSE AS CHALLENGES

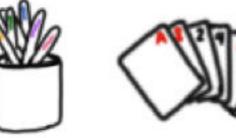
### AS-IS CURRICULAR TASKS

- AVOID THESE
- PROMOTE MIMICKING

MIMICKING + THINKING

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- MULTIPLE ENTRY POINTS
- · CHALLENGE FOR ALL STUDENTS
- · HIGH EXPECTATIONS FOR ALL STUDENTS TO THINK



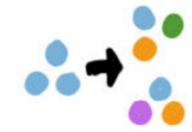


VISIBLY RANDOM GROUPS

## TIPS FOR VRG SUCCESS



NEEDS TO BE VISIBLE



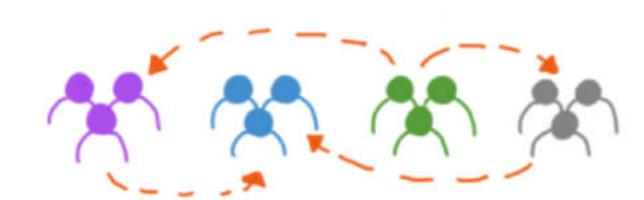
SWITCH GROUPS EVERY HOUR/TASK



NO INDEPENDENT THINK TIME BEFORE COLLABORATING



EXPLICTLY TEACH AND GIVE FEEDBACK ON INCLUSIVE AND EFFECTIVE COLLABORATION





KNOWLEDGE MOBILITY

RELIANCE ON TEACHER

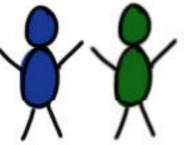
BORROWING IDEAS - KEEP THINKING

# equity &

- . ELIMINATION OF SOCIAL BARRIERS
- · WILLINGNESS TO COLLABORATE
- · MORE STUDENTS DO MORE THINKING
- · KNOWLEDGE COMES FROM GROUPS
- · PUTS STUDENTS' UNBELIEVABLE CAPACITY FOR EMPATHY IN MOTION

VERTICAL NoN PERMANENT SURFACES

INCREASED KNOWLEDGE MOBILITY



- BETTER POSTURE
- IMPROVED MOOD
- INCREASED ENERGY STANDING

### TIPS FOR VNPS SUCCESS

- · CLOSE NOT CROWDED
- · ONE MARKER PER GROUP DRI ENASE
- · THOUGHTS WRITTEN BY SOMEONE ELSE
- . HOLD MEMBERS ACCOUNTABLE TO EXPLAIN GROUP'S THINKING
- . DIFFERENT COLOUR MARKER WINDERSEL FOR THE TEACHER
- · KEEP OLD/WRONG THINKING



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- · INCREASED RELIANCE ON EACH OTHER INSTEAD OF TEACHER
- STUDENTS DO NOT FEEL ANONYMOUS WHEN STANDING
- . OPPORTUNITIES FOR REAL-TIME DIFFERENTIATION
- . NEW COMPETENCIES EMERGE
- . SKILLS DEVELOPED : PATIENCE, COMMUNICATION, PERSEVERANCE

## CONSIDERATIONS FOR

### MULTILINGUAL LEARNERS

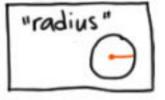
ENGLISH ARABIC MANDARIN FARSI

TURKISH SWAHILI

CONNECTIONS TO AND USE OF PRIMARY LANGUAGE



PROVIDE CONVERSATIONAL STRATEGIES



MAKE TERMS VISIBLE AND VISUAL



LISTEN AND OBSERVE TO PROVIDE SCAFFOLDS AS NEEDED

## SPECIAL EDUCATION SUPPORTS



INDIVIDUALIZED SUPPORTS (rehearsal, targeted grouping) FOR SOCIAL INTERACTIONS



PHYSICAL ACCOMMODATIONS IT IF NEEDED



ONE MARKER PER GROUP IS "NATURAL" SCRIBING

## UNIVERSAL DESIGN FOR LEARNING



NAME CARDS TO MAKE PRONUNCIATION VISIBLE



LOW STAKES TASKS TO LEARN COLLABORATION SKILLS FIRST



VALUE AND CONNECT TO LIVED EXPERIENCES, INTERESTS, AND CULTURE



MAKE AVAILABLE AND ENCOURAGE USE OF CONCRETE MATERIALS AND MANIPULATIVES

BUILDING THINKING CLASSKOOMS PETERLILIEDAHL epalifiedahl COLLABORATION WITH @ WRDSB EDUCATORS

SKETCHNOTE: Caleda Klassen