AAC Symbol Assessment: How, Why, and Who can do it?

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add ed

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learn. connect. build.

Can you read?

Can you read?

What do these words together describe?

- Movie
- Stranger
- Food
- Tired

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- Movie
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What's the problem?

Similar example with road signs.

What are the messages?

Language= “complex and dynamic system of conventional symbols that is used in various modes for thought and communication.”

- “**language evolves** within specific historical, social, and cultural contexts;
- language, as **rule-governed behavior**, is described by at least five parameters—phonologic, morphologic, syntactic, semantic, and pragmatic;
- language **learning and use are determined by the interaction** of biological, cognitive, psychosocial, and environmental factors;
- effective use of language for communication **requires a broad understanding of human interaction** including such associated factors as nonverbal cues, motivation, and sociocultural roles.”

ASHA: https://www.asha.org/policy/rp1982-00125/

Communication

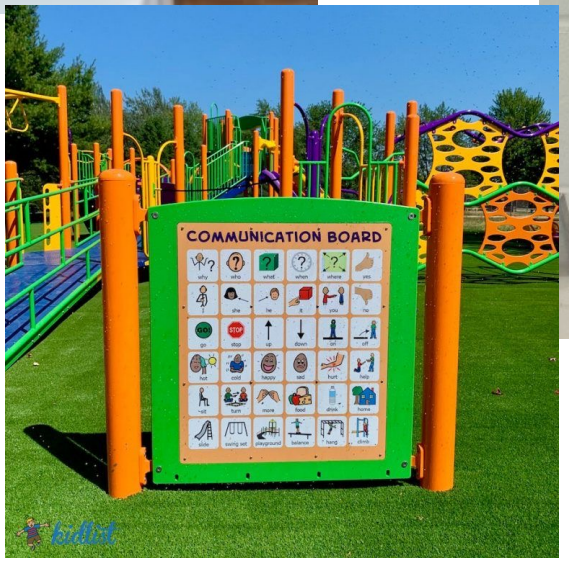
- Active exchange of information and ideas
- Receptive and expressive
- Various forms
- Symbolic

ASHA: https://www.asha.org/njc/definition-of-communication-and-appropriate-targets/

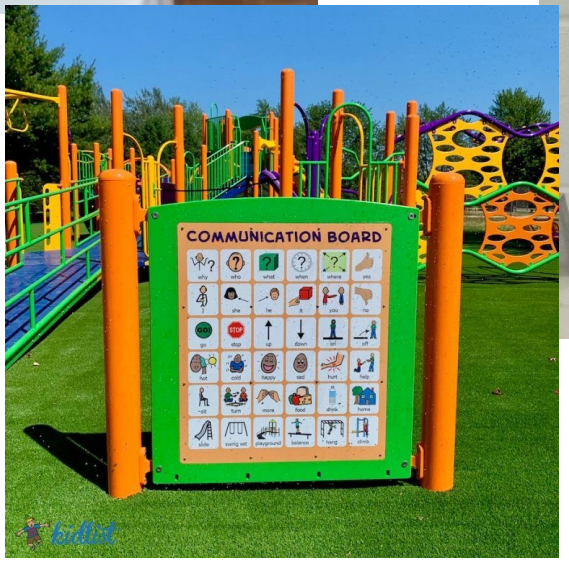
AAC and symbols

- AAC= Augmentative and Alternative Communication
  - Spans from low to high tech
- Unaided (no external tool) vs. **Aided (external tool) AAC**
- Symbols= representative language abstractions
  - Come in various forms
  - Used within a system for expressive & receptive communication
  - AAC systems, like language should grow, develop, and remain contextually appropriate

Advancements in AAC symbolic use



Assumptions in AAC symbolic use



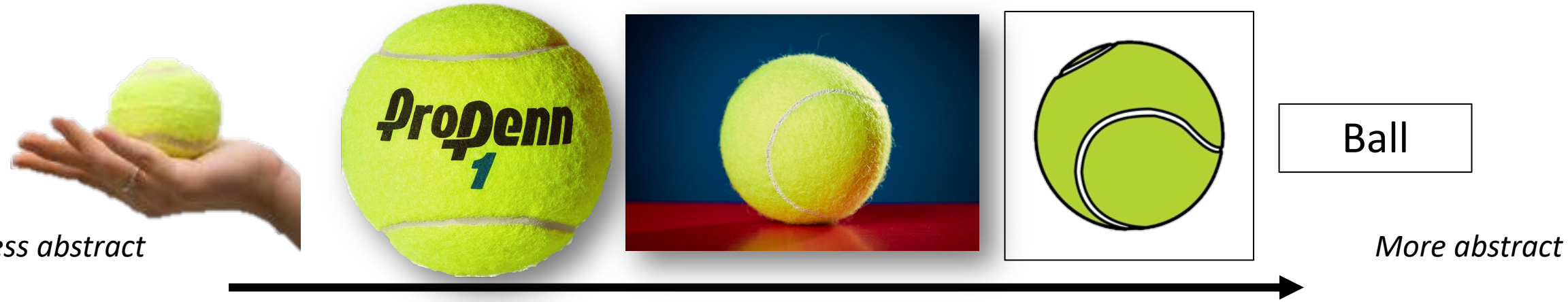
Iconicity= symbol and referent association

- "Transparent symbols are readily guessable in the absence of the referent, such as a photograph or written word.
- Opaque symbols are not readily guessable even when the meaning of the symbol is known, such as an individualized gesture.
- Translucent symbols lie between transparent and opaque symbols. The meaning of the referent may not be obvious, but the relationship between symbol and referent is more obvious when additional information is provided (Fuller & Lloyd, 1991)"

ASHA: https://www.asha.org/practice-portal/professional-issues/augmentative-and-alternative-communication/#collapse_1

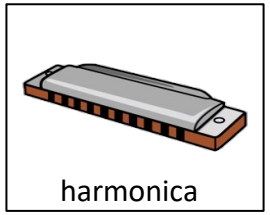
General Symbol Hierarchy*

1. Object
2. TOBI (Tangible object-based icon)
3. Photo
4. Line drawing
5. Written word



Selection Complexity/ Hierarchy

1. 1 symbol alone



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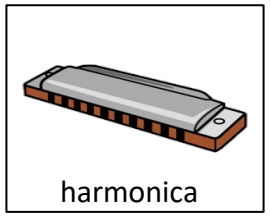
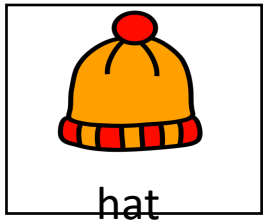
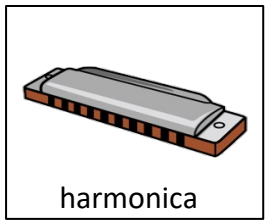
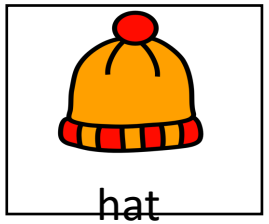


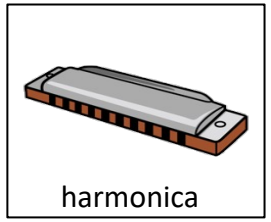
3. 2 symbols (1 correct/ desired and 1 incorrect/ undesired)

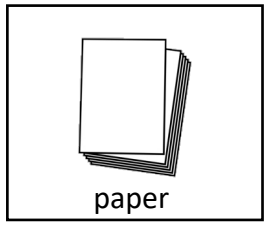




4. 3+ symbols (1 correct/ desired)







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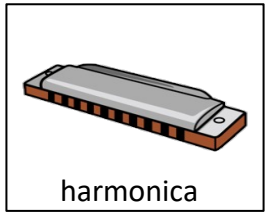

=symbol has communicative function/ symbols represent objects

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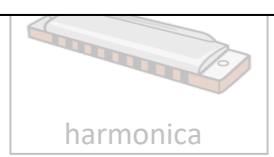

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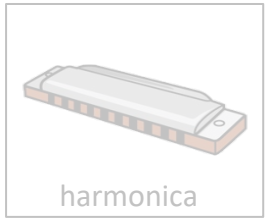

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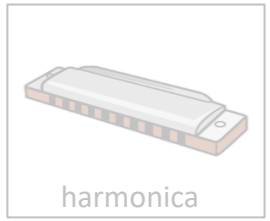

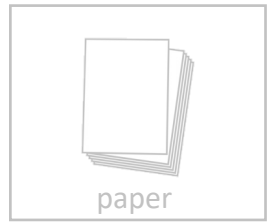

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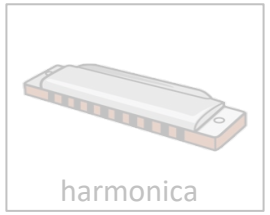

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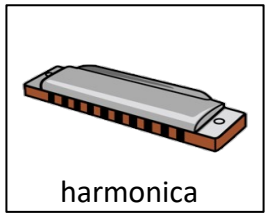

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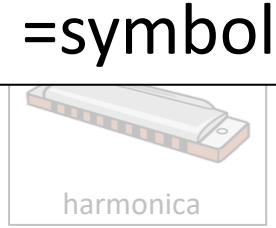
=symbols contain graphics



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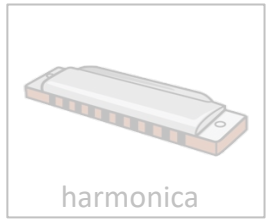

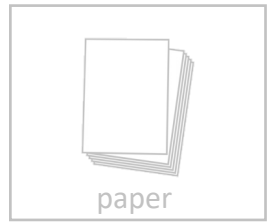

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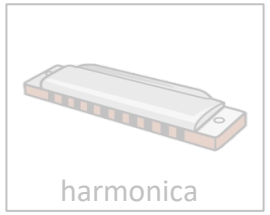

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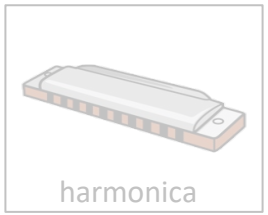

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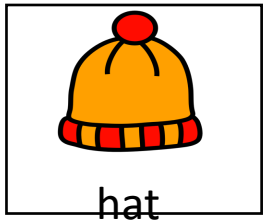

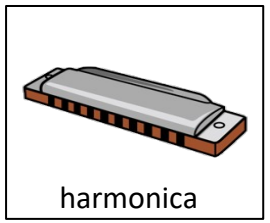

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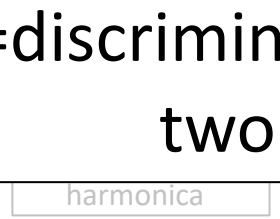

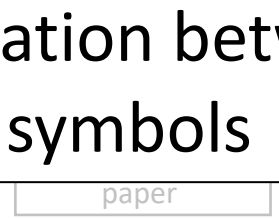

=discrimination between two symbols

Selection Complexity/ Hierarchy

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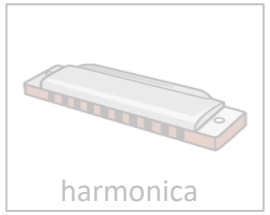

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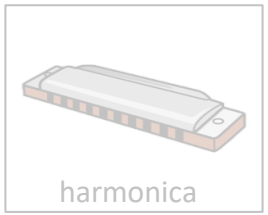

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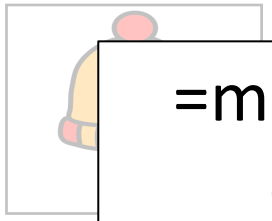
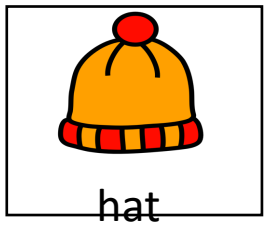
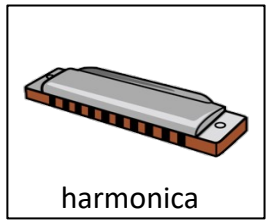
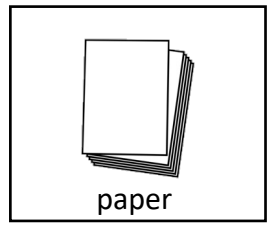


=more complex discrimination, early scanning from field

4. 3+ symbols (1 correct/ desired)







AAC Symbol Assessment Goals

Informal assessment to aide in…

- Understanding general communicative baseline
- Identifying areas for instruction/ learning growth

AAC Symbol Assessment Limits & Considerations

- Not a measure of intelligence
- Does not indicate developmental approach
- Not intended to restrict access to complex symbols
  - Concrete forms limit complexity of communication
- Should be taken into consideration with sensory and motor skills and needs
- Represents a snapshot of continuous a fluid process of learning and development
- Findings should echo observations

Materials, data collection, and preparation

- Preference assessment (direct/ communication with school staff and family)
  - Typical novel and high interest items/ activities (ensure age appropriateness)
- Select 2-3 highly and 2-3 non-preferred items (& foil)
  - Symbol set library
- Data sheet
- Setting
  - Table with or without Velcro board
- Cautions on the use of food*

How to conduct

1. Brief item intro (*preference gauging/ assessment*)
2. Determine symbol type max complexity*
3. Begin assessment (most complex symbol, least complex selection)
   a. Continue with symbol type through selection types (until hit max selection)
   b. Repeat with next symbol type (until hit minimum symbol type)
   c. Record data
   d. Record response time with max symbol type
4. Write and share report

Item intro (*preference gauging/ assessment*)

- Allow (very brief) interactions with items and assess student interest
- Caution of satiation (over-exposure/ disinterest)
- Introduce and name items (consistent with symbols)

Hypothesize symbol type max

- “Max”= most abstract symbol type understood*
- Consider previous observations, staff and family reports
- Aim high

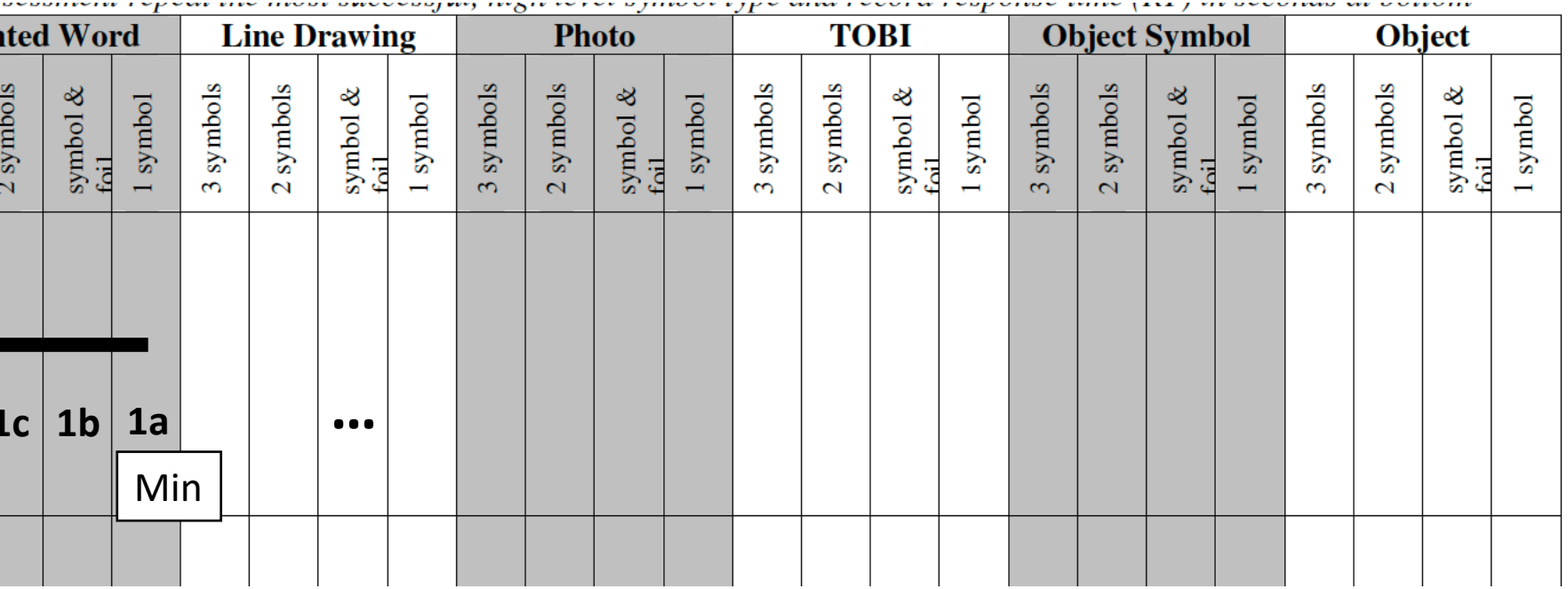
*Printed word is usually best bet, but can start lower as appropriate

Symbol Assessment

Max

Min

1 **2** **…**



	Printed Word				Line Drawing				Photo				TOBI				Object Symbol				Object			
	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol
Object 1																								
Object 2																								

1d **1c** **1b** **1a** **…**

Max

Min

Example

	Printed Word				Line Drawing				Photo				TOBI				Object Symbol				Object			
	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol	3 symbols	2 symbols	symbol & foil	1 symbol
Object 1 Bounce tennis ball		- - -	+ +	+ +		- - +	+		+ - - +	+ + +			+ -	+										
Object 2																								

Symbol Assessment

Object 1

1. Max (hardest) symbol first/ from easiest to hardest selection type
2. Repeat with next symbol type (looking for max and min)
3. Watch for selection type patterns (no need to repeat when finding a pattern)
4. Repeat other objects as needed

- Re-assess Max symbol type and record response time

Example

Reporting Results

- Purpose, procedure, and limitations
- Context: Items used, session time and length, student affect
- Results: symbol type accuracy per selection type
- Conclusions:
  - Symbol type= current use and areas for growth
  - Selection type= interpretations of symbols as communication tools
- Recommendations:
  - Daily symbol use
  - Further assessment
  - Symbol type and selection instruction topics and activities

Maya

Symbol Type	1 symbol	symbol/foil	2 symbols	3 symbols
TOBI				100% (3/3)
Photo		66.7% (2/3)	100% (4/4)	55.6% (5/9)
Picture Communication Symbols (PCS)	100% (3/3)	69.2% (9/13)	75% (12/16)	36.8% (7/19)
Printed Word	80% (4/5)	60% (3/5)	28.6% (4/14)	0% (0/2)

Results Summary

- Strong- symbols represent objects
- Moderate- symbols contain graphics
- Strong- symbol discrimination
- Easy use of TOBIs and photos
- Good use of PCS
- Difficulty with written word

Recommendations

1. Make use of picture communication symbols (paired with written word) as appropriate throughout Maya's daily activities (i.e. daily schedule, activity specific schedule, topic-specific communication pages).
2. Continue to document picture communication symbols introduced (vocab list) and accuracy
3. Make use of choice of 2 when an accurate response is required and work to expand choices (3-4) in learning opportunities.

Erik

Symbol Type	1 symbol	symbol/foil	2 symbols	3 symbols
TOBI	Not assessed			
Photo	Not assessed			
Picture Communication Symbols (PCS)	1/1 (100%)	1/1 (100%)	6/9 (66%)	5/6 (83%)
Printed Word	2/2 (100%)	5/8 (63%)	3/7 (43%)	4/7 (57%)

Results Summary

- Understands that symbols have meaning & contain graphics
- Fairly strong discrimination ability
- Mod-strong PCS use
- Moderate use of written words

Recommendations

1. Pair school vocabulary words with picture communication symbols.
2. Make use of various picture communication aides as appropriate for daily activities (i.e. PCS daily schedule, PCS on-task reminder, PCS topic-specific communication pages).
3. Continue to record data on progress with word and PCS vocabulary to inform future decisions.
4. Consider providing context-relevant spelling words and PCS

Considerations for Practice

- Consider starting in teams in association with speech language pathologist, teacher, educational assistant, other related staff
  - Practice, reflect, train
- Co-create symbol bank, data sheet, report template
- Start with students without an efficient communication system
- Provide continual updates and informal tracking of progress to inform supports and instruction

Questions and Contact

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