Big Data for Little Kids:
Data Modeling with Young Learners and their Families

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Design and develop a 6-week workshop curriculum that will deepen our understanding of:

- How 5-8 year-olds define, collect, represent, interpret data
- How parents engage with children in data inquiry activities

...in an informal learning environment
Goals

- Create a meaningful learning experience through scientific inquiry that centers on key concepts of data modeling:
  - variation
  - measurement error
  - data aggregation
  - interpretation
  - prediction

- Observe how families may support young children’s emergent thinking about why and how to gather and use data
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- 8 families, 4 Spanish-speaking
- 12 children
- 6 workshops, each 2 hours, once a week for 6 weeks
- “Make your own museum exhibit”
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Workshop 1:
- Intro to data cycle
- Explore museum exhibits
- Pick favorites and vote
- Collect and interpret data
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Data cycle:
- Start with asking a question!
- Collect
- Analyze
- Organize
- Interpret
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Workshop 2:
- Units of measurement
- Variation
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Workshop 2:
- Units of measurement
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Workshop 2:
- Data analysis

- Jonathan: 1 1/3 Jonathans
- Justin: 12 tubes
- Grace: 6 pipe cleaners, 10 popscicle sticks
- Ariel: 4 Strings
- Brendan: 5 big blocks, 3 med., 1 sm.
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Workshop 2:
- Measure exhibits; collect data
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Workshop 2:
- Data analysis
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Workshop 3:
- Time
- Interval data vs. categorical data
Workshop 3:
- How long does it take to complete a puzzle?
Workshop 3:
- How long do people interact with exhibits?
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Workshop 3:
- Organize data
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Workshop 3:
- Interpret data
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Workshop 4:
- Make a toy that you can enjoy together
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Workshop 4:
- Make a toy that you can enjoy together
- How many features does it have?
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Workshop 4:
- Count features on a museum exhibit
- Organize data
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Workshop 4:
- Organize data
## Workshop 4:
- Interpret data

### Prompts:
- Any exhibit have all features?
- Any feature in all exhibits?
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Workshop 5:
Design your exhibit

Workshop 6:
Public display!
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Next steps:
- Refine curriculum
- Repeat workshop series in October