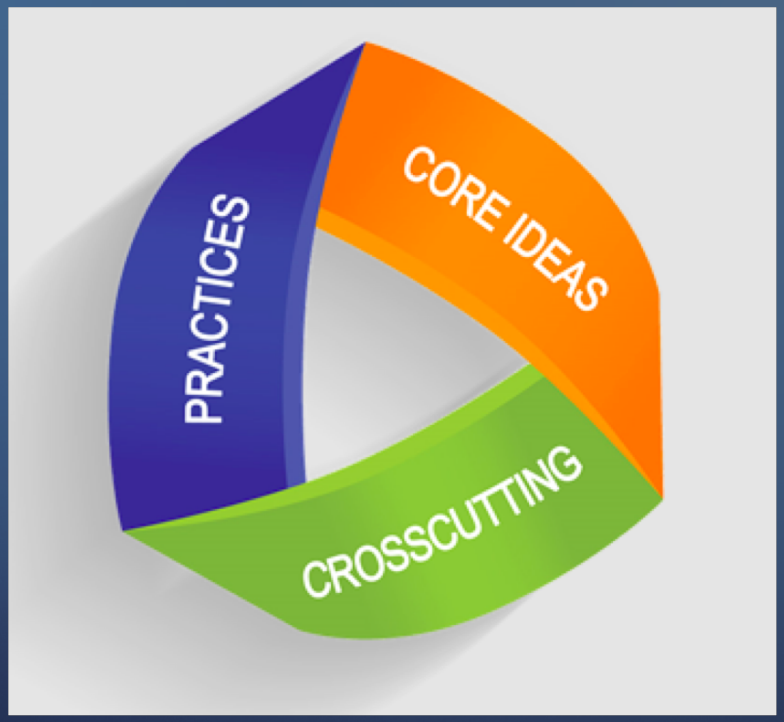
MAKING MODELS:
THE SCIENCE PRACTICES IN ACTION

PRESENTATION TO
SCHOOL COMMITTEE

NOVEMBER, 2018



WHAT'S NEW?

- Science Practices
- Concepts Span Grade levels
- Links to Teaching and Learning expectations

WHAT ARE THE SCIENCE PRACTICES?

NGSS Science and Engineering Practices

Golden Apple STEM Institute

Asking Questions & Defining Problems

Developing & Using Models

Planning & Carrying out Investigations

Analyzing & Interpreting Data

Using Mathematics & Computational Thinking

Constructing Explanations & Designing Solutions

Engaging in Argument from Evidence

Obtaining, Evaluating & Communicating Information

LET'S PRACTICE THE PRACTICES.

2. Developing and using models
6. Constructing explanations
8. Obtaining, evaluating, and communicating information

MYSTERY science

Your Task: Draw a model that EXPLAINS what you think happens to the leaves.

	Level 1	Level 2	Level 3	Level 4
2. **Developing and using models**	Students do not create or use models.	Students create or use models. The models focus on *describing* natural phenomena rather than predicting or explaining the natural world. Students *do not evaluate* the merits and limitations of the model.	Students create or use models focused on *predicting or explaining* the natural world. Students *do not evaluate* the merits and limitations of the model.	Students create or use models focused on *predicting or explaining* the natural world. Students *do evaluate* the merits and limitations of the model.

Now, revise your model to MORE ACCURATELY EXPLAIN what happens to the leaves.

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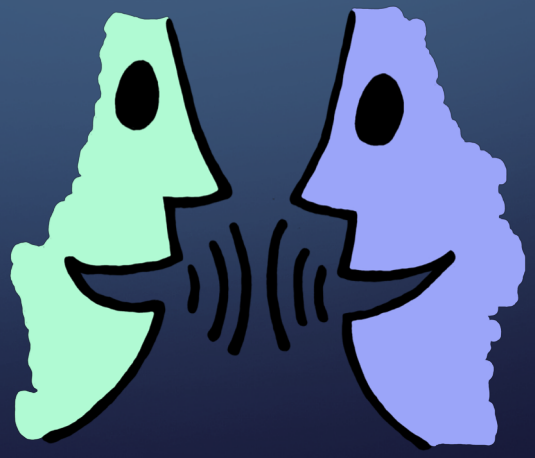
How DO leaves decompose on the forest floor?

Explain this process to a partner. Refer to your model as you give your explanation.



LET'S PRACTICE THE PRACTICES.

2. Developing and using models
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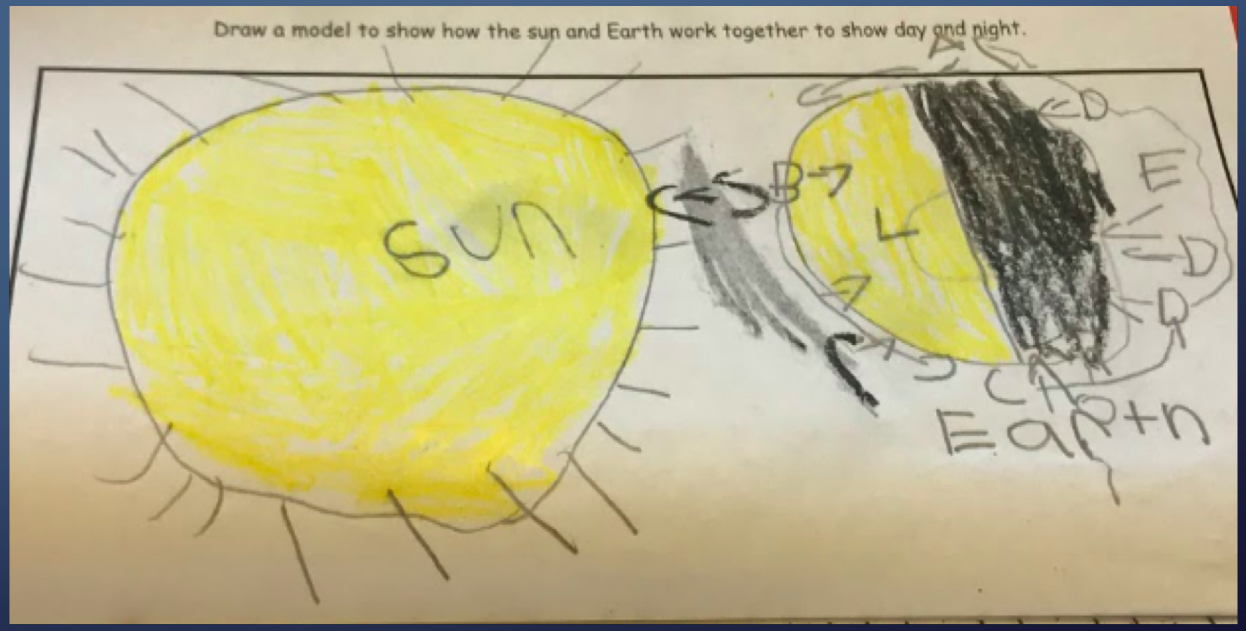
WHAT DOES MODELING LOOK LIKE IN OUR CLASSROOMS?

GRADE 1

Bryce

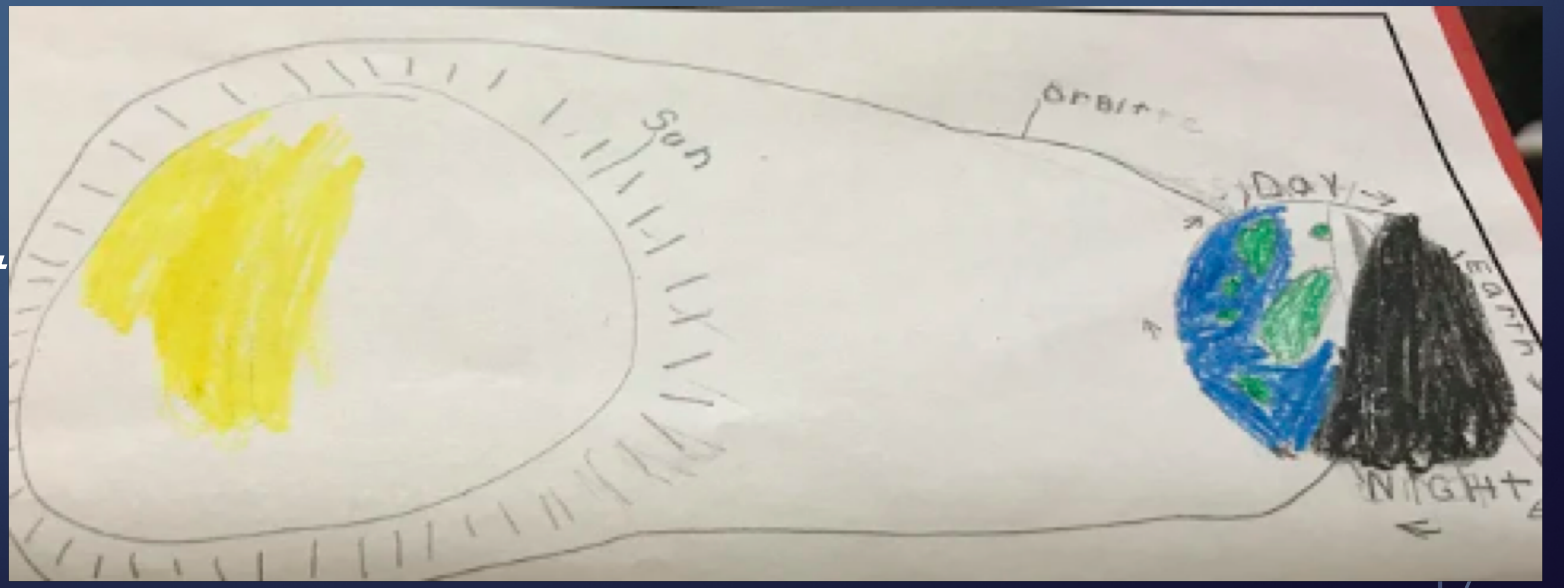
How the sun and Earth work together to show day and night



DAY & NIGHT

- Colin, Grade 1

How the sun and Earth work together to show day and night



Grade 2 Models: Landslide Prevention

Shraddha Gujjari & John Poppalardo

Grade 4 Models: Erosion and Deposition

Sidharth Sivaramakrishnan & Blake Rice

NEXT STEPS

- PD scheduled for all grades for the week of March 25†
- Summer Institute opportunities
- Roll out to all grade levels K-4 beginning September, 2019

QUESTIONS?