Do the Science

Northwest Educational Service District 189
Together We Can
Math & Science Collaborative Inquiry Project

Instructional materials (text; kit) Guide: http://teacherstryscience.org/lp/ride-rock-cycle ; Worksheet: http://sciencespot.net/Media/rockcycwkst.pdf ;
Dice: http://sciencespot.net/Media/rockcycdice.pdf ; **Grade Level:** 6-8

Lesson: Rock Cycle Simulation

Big Idea: Models are used to represent and understand processes, but they have limitations. 6-8 INQE

Lesson Learning Target:	**Common Misconceptions:**
Describe how simulations are a type of model used to represent processes.	Observation may be based on inference or opinion.
Success Criteria: I can describe how a simulation is a model that can represent and be used to understand a process.	**Vocabulary:** model simulation rock cycle objects, events, systems, processes, phenomena

Elicitation Activity*: Entry task
Quick Write -- pre assessment question: *What is a simulation?*

- Describe activity
- Show stations
- Pass out worksheet
- Take 1st roll

Act out simulation
Use timer on Smart Board to announce time to switch stations

T: "On your worksheet, look at your journey.
Think about where you went during the simulation & what processes occurred to get you to the stations.
What surprised you?"
W: "Write down your observations based on your 'think.'"
P: share w/table partner
S: Share w/class

Talk structures/Discourse techniques:
Individual/written

Teacher to class/oral

Informal student to student discourse during the simulation

Teacher to class

Think-Pair-Share

Class discussion

Embedded Formative Assessment/s:
Written responses to the think-write activity
Comments during class discussion
Exit ticket: Why is a simulation a model?

Adjustment Trigger *What level of student performance will necessitate an instructional adjustment?*	(Rock cycle = event/process/phenomena) Student describes a simulation as a type of model using at least two of the following ideas: • A simulation is similar to an actual event/ process/ phenomenon and so is a model. • Simulations represent actual events/processes/ phenomena and so do models. • Simulations can be used to better understand events/processes/phenomena and so can models. • A simulation has limitations because it is not exactly like the event/process/phenomenon it represents, nor is a model.

Instructional Adjustment (if needed):

Scaffold exit tickets for those students needing extra guidance:

Lesson Closure*:

Exit ticket:

1. How did the simulation help you understand the process of the rock cycle?
2. Some models are objects (e.g.: a globe is a model of the Earth). Why is a simulation a model?

* Opportunity for formative assessment