

SEDIMENT

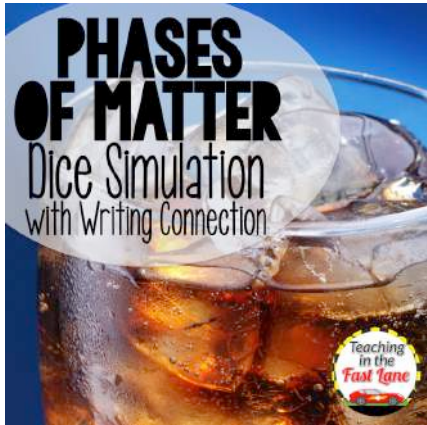
Dice Simulation
with Writing Connection



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Teaching in the Fast Lane

FOR MORE SIMULATIONS!



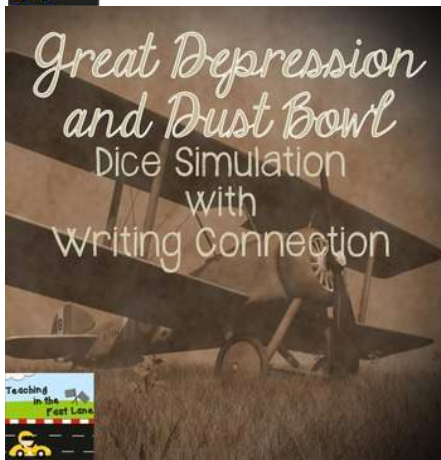
TURKEY IN HIDING
Dice Simulation
AND WRITING CONNECTION



CIRCULATION OF A DOLLAR
Dice Simulation
AND WRITING CONNECTION



REINDEER GAMES
Dice Simulation
AND WRITING CONNECTION



MANY MORE TO COME!

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INCLUDED IN THIS PRODUCT:

- Teacher and student directions for simulation
- Recording sheet
- Sample recording sheet
- Teacher directions for narrative
- Sample narrative based on sample recording sheet
- Rubric for narrative
- Signs for each location with directions
 - For larger classes, I would make multiple copies of each poster and directions, so that lines at each don't get too long.

****You will need six dice to complete this simulation. I recommend the large foam dice that can be found at the dollar store.****

NOTE TO TEACHER

This is a simulation meant to reinforce students' knowledge of ways that sediment moves through an environment. This simulation is a great way to connect science and writing within your curriculum.

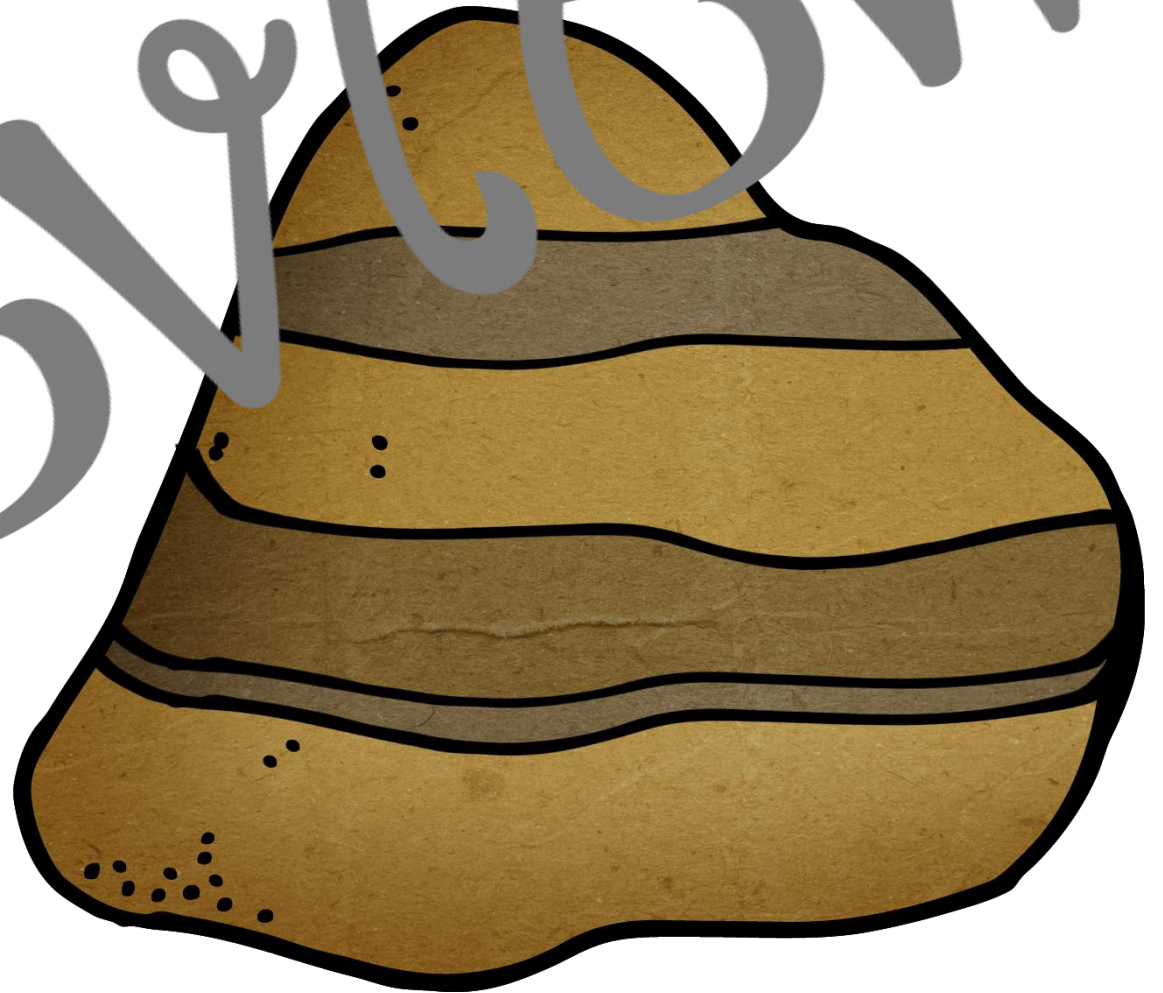
TEACHER DIRECTIONS FOR SIMULATION

- Print and laminate each of the location signs and student directions.
- Hang the location signs and student directions around your classroom and place one die by each poster.
- Hand out recording sheets to students and review the directions with them:
 - Directions are found on the next page.
- Monitor students as they travel around the classroom during the simulation and complete their recording sheet.
- Assign students to their starting location.
Help this by numbering students off #1-6 and assign them to the following locations:
 - 1. Rock
 - 2. Caught in an Animal Hoof
 - 3. Carried Away by Water
 - 4. Blown Away by Wind
 - 5. Stuck to a Shoe
 - 6. On a Hiking Trail

DIRECTIONS FOR SIMULATION

- After each student has their starting location, they should begin to circulate.
- At each location, roll the die and read the event associated with the number rolled. Use the name and line words to record your progress and travel to the next location.
- Once you have established your location, travel there quietly and wait in line to roll the die.
 - If your die roll is to stay in the same location, then go to the end of the line and take another turn rolling the die.
- Students should continue to travel from location to location until they complete their recording sheet or time is up.
 - I would recommend allowing students to complete the simulation for about 10-15 minutes.

ON A ROCK



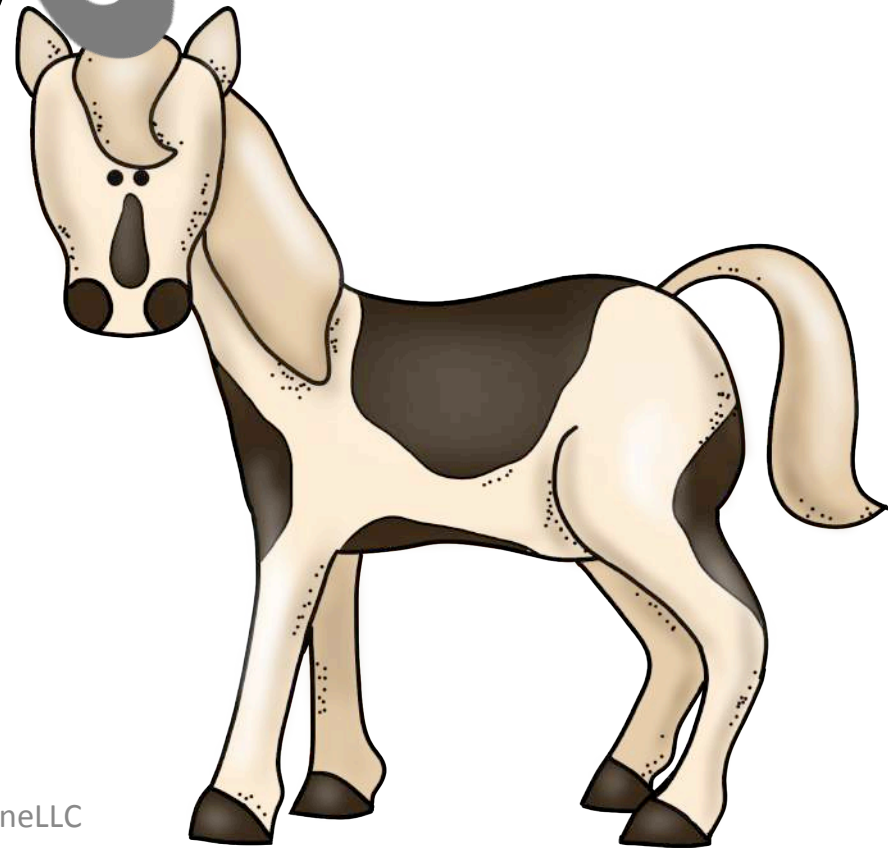
ON A ROCK

1. A strong breeze blows and you are carried away in the wind.
2. A flash flood roars and you are carried away by water.
3. A stampede occurs and you are caught in an animal's hoof.
4. A rock climber scales you and you get stuck to their shoe.
5. A glacier scrapes away everything in its path.
6. During high tide you are caught in a wave.

CAUGHT IN AN

ANIMAL'S

HOOF

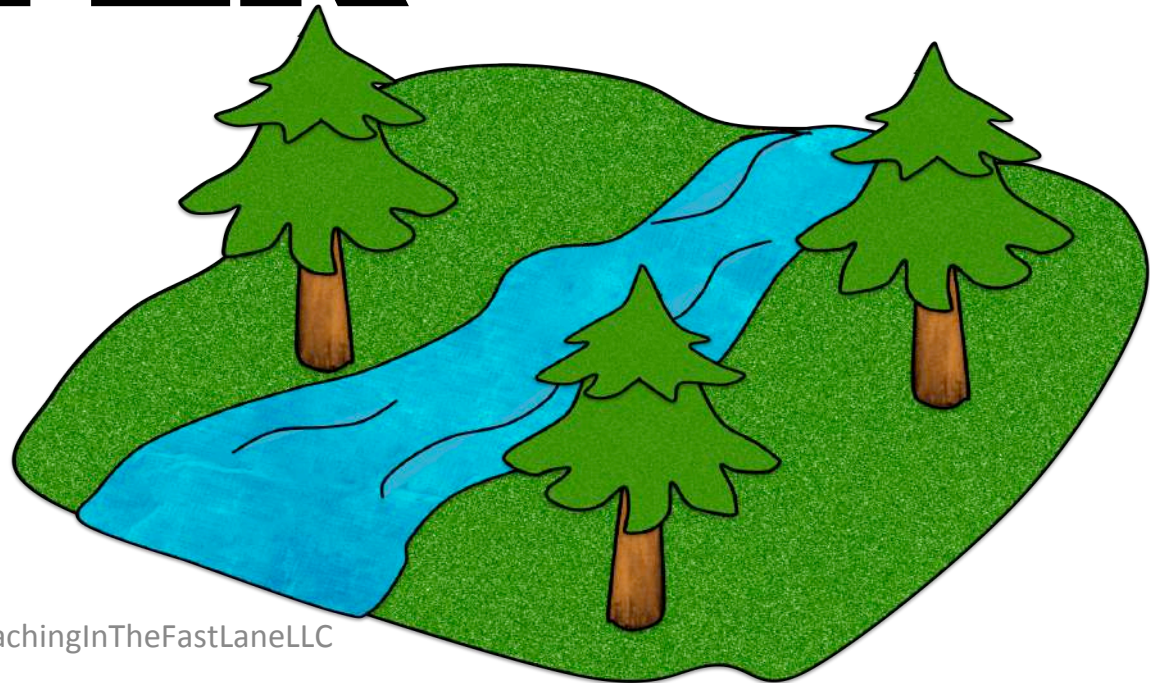


CAUGHT IN AN ANIMAL'S HOOF

1. You are dropped on a hiking trail.
2. While the animal is drinking, you fall into the river and are carried away by water.
3. You stay caught in an animal's hoof.
4. You are dropped on a hiking trail.
5. While the animal is drinking you fall into the river and are carried away by water.
6. You stay caught in an animal's hoof.

CARRIED AWAY

BY WATER



CARRIED AWAY BY WATER

1. The river is strong, you continue to be carried away by water.
2. You are deposited on a rock.
3. While an animal is drinking you get caught in its hoof.
4. The river is strong, you continue to be carried away by water.
5. After a flood, you are left on a hiking trail.
6. You are deposited on a rock.

BLOWN AWAY

BY WIND



BLOWN AWAY BY WIND

1. You are deposited on a rock.
2. You land on a hiking trail.
3. The wind is strong and you continue to be blown away by the wind.
4. You land in a river and are carried away by water.
5. You are deposited on a rock.
6. You land on a hiking trail.

STUCK TO A

SHOE

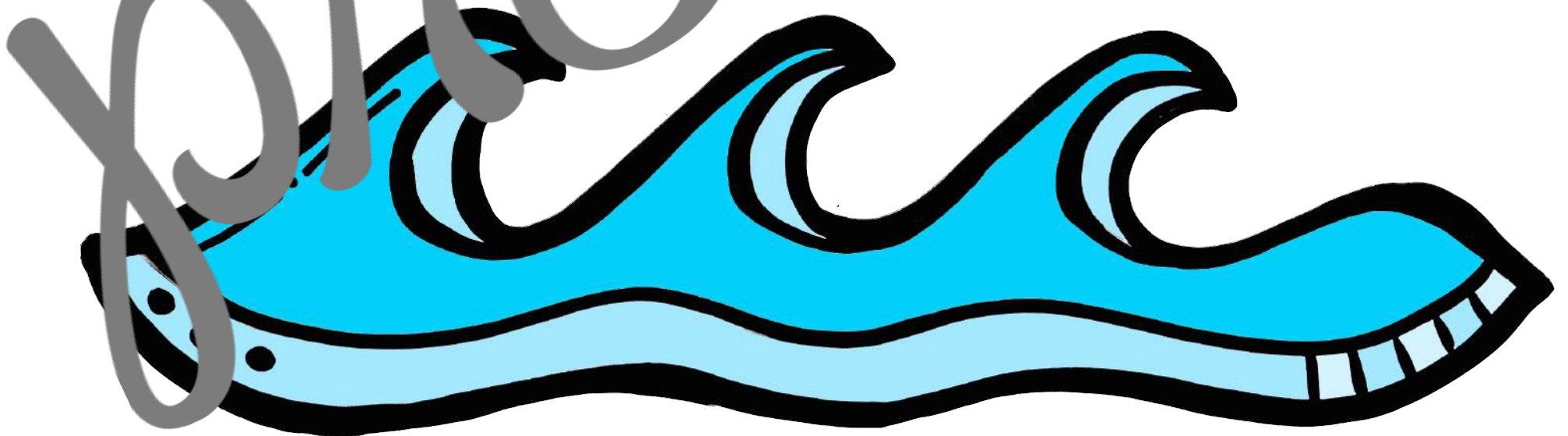


STUCK TO A SHOE

1. You fall off the shoe onto a hiking trail.
2. After visiting the beach you are caught in a wave.
3. You are deposited on a rock.
4. After visiting the beach you are caught in a wave.
5. You are deposited on a rock.
6. You fall off the shoe onto a hiking trail.

CAUGHT IN A

WAVE



CAUGHT IN A WAVE

1. The ocean is quite large, and you stay caught in a wave.
2. You are warned to on a rock.
3. The ocean is quite large, and you stay caught in a wave.
4. After high tide you are left on a hiking trail.
5. The ocean is quite large, and you stay caught in a wave.
6. A strong wind blows over the ocean, and you are blown away in the wind.

SCRAPED AWAY

BY A

GLACIER



SCRAPED AWAY BY A GLACIER

1. The glacier is gigantic and you continue to be scraped away by a glacier.
2. An animal walks across the glacier and you get caught in its hoof.
3. The glacier is gigantic and you continue to be scraped away by a glacier.
The glacier meets the ocean, and you are caught in a wave.
5. The glacier is gigantic and you continue to be scraped away by a glacier.
6. You are left behind on a hiking trail.

ON A

HIKING

TRAIL



ON A HIKING TRAIL

1. You are lifted up and blown away in the wind.
2. A storm comes and you are carried away by water.
3. A band of animals crosses the trail and you are caught in an animal's hoof.
4. A hiking group walks the trail and you get stuck in a shoe.
5. You stay on a hiking trail.
6. A flood comes and you get washed down to the ocean and caught in a wave.

Name_____

#_____

Date_____

SEDIMENT DICE SIMULATION

1	Begin	1 ●	
2		12	
3		13	
4		4	
5		5	
6		16	
7		17	
8		18	
9		19	
10		20	

SAMPLE RECORDING SHEET FOR SEDIMENT DICE SIMULATION

1	Begin on a rock	11	carried away by water
2	stuck to a shoe	12	carried away by water
3	caught In a wave	13	deposited on a rock
4	caught In a wave	14	blown away in the wind
5	caught in a wave	15	caught in a wave
6	caught In a wave	16	caught in a wave
7	caught In a wave	17	on a rock
8	caught In a wave	18	stuck to a show
9	on a hiking trail	19	on a hiking trail
10	in an animal's hoof	20	blown away in the wind

TEACHER DIRECTIONS FOR NARRATIVE

- After completing the dice simulation, students are ready to write a narrative from the point of view of a piece of sediment traveling through an environment.
- Students should use their recording sheet (the locations they visited) to write a narrative piece about their adventure.
- By following their recording sheet and adding details, students will have a narrative describing their adventure. It is also important for students to use their science vocabulary in the narrative.
- It is alright for students to not use all of the locations on their recording sheet, but they should include at least five events.
- A rubric for the narrative is included.

SAMPLE NARRATIVE

As a rock my existence is pretty dull. Day in and day out I watch the sun rise and set. I get overly excited whenever something as simple as a rock climber or a deer happens upon me. I can only hope that one day I will be lucky enough to be taken along with them.

It happened! It finally happened! I was just minding my own business, lay hanging out in the rock that I have been part of for a millennia, when all of a sudden my view went dark. I didn't know what it was at first, but soon I realized that it was my dream come true. There I was stuck to the bottom of a hiker's shoe.

It took a while for me to get used to the new reality of my life. With each step that the hiker took I saw sunlight and then dark over and over again. Each time I saw light there was new scenery, which was so welcome after many years of the same view from the rock.

The best day yet has arrived. Last night I overheard the shoe's owner discussing going to the beach today, and sure enough this morning we got here bright and early. The sand is so soft, and yet abrasive. I willed the shoe's owner to bring me closer to the ocean. I had always wanted to feel the ocean.

Soon enough my latest wish came true. I felt the sand get moist and heard the waves crashing on the rocks as we got closer to the water. Before I knew it I was no longer attached to the shoe, but was instead tumbling in the waves of the ocean. I felt free of gravity as I drifted out to sea.

Little did I know that being in the ocean would last for a decade. I crashed with the waves on the shore, and I longed to be left there, but I was constantly being pulled back out to the deep, dark depths of the ocean.

One day, an especially high tide rolled in over the dunes of the beach and I reached out and held on for dear life. I landed myself on a hiking trail near the rock that I lived on for so long. I screamed out in joy for not being in the water anymore. After so many years I felt so waterlogged and was eternally grateful to just lay on the trail in the sun.

Here I stay, considering what my next adventure might be!

RUBRIC FOR SEDIMENT DICE SIMULATION NARRATIVE

	1 point	3 points	5 points
Grammar, Mechanics, & Spelling	Many mistakes that make it difficult for the reader to understand.	A few mistakes, but the reader can still understand.	Only 2 mistakes and the reader can understand.
Organization and Coherence	The story does not make sense or follow order of events.	The story follows order of events, but lacks coherence.	The story follows a logical order and is coherent.
Events from Recording Sheet	Includes 3 or less events from the simulation.	Includes 4-5 events from the simulation.	Includes 6 or more events from the simulation.
Imagined and Scientific Vocabulary	No details are added. Academic vocabulary is not present.	A few obvious details are added along with some academic vocabulary.	Many imaginative details are added. Clear use and knowledge of academic vocabulary is present.

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