

# WATER CYCLE

Dice Simulation  
with Writing Connection

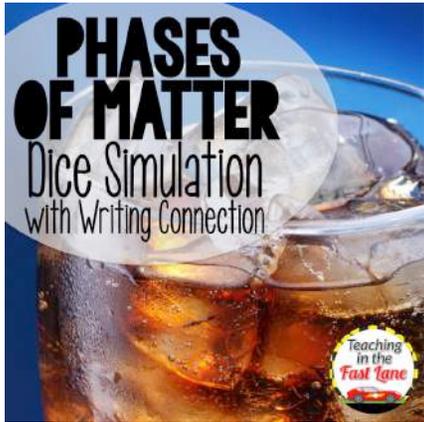
Teaching  
in the  
*Fast Lane*



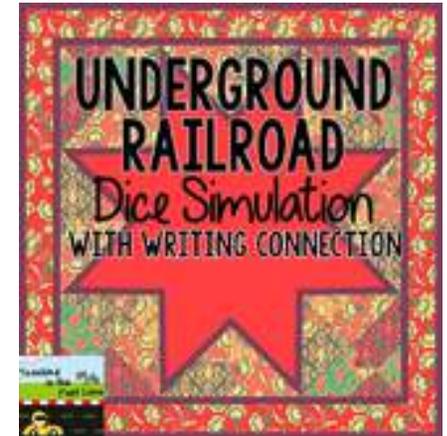
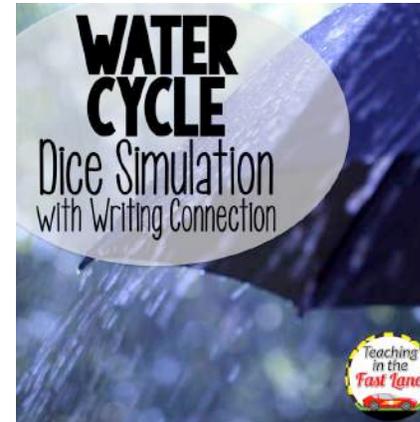
PLEASE VISIT MY TEACHERSPAYTEACHERS STORE

# Teaching in the Fast Lane

FOR MORE SIMULATIONS!



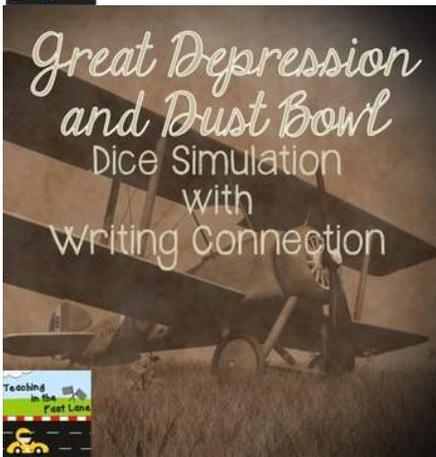
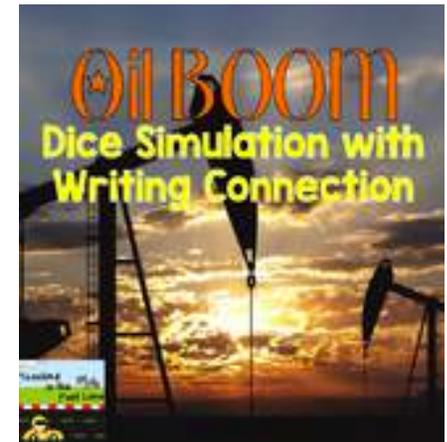
**TURKEY IN HIDING**  
Dice SIMULATION  
AND WRITING CONNECTION



**CIRCULATION OF A DOLLAR**  
Dice SIMULATION  
AND WRITING CONNECTION



**REINDEER GAMES**  
Dice SIMULATION  
AND WRITING CONNECTION



**MANY MORE TO COME!**

©2015TeachingInTheFastLaneLLC



# 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 seven 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 the water cycle. 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.
  - do this by numbering students off #1-5 and assign them to the following locations.
    - 1. evaporation
    - 2. Condensation
    - 3. Precipitation
    - 4. Accumulation
    - 5. Transpiration

# 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 underlined 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 directive 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.

# EVAPORATION



# EVAPORATION

1. The heat from the sun make you continue to evaporate.
2. As you climb higher into the atmosphere you cool and condense into a liquid to form a cloud.
3. The heat from the sun make you continue to evaporate.
4. Condense into fog and accumulate into a pond.
5. Condense into fog and land on a plant to transpire.
6. Evaporate into the atmosphere then fall back to the Earth as precipitation.

# CONDENSATION



# CONDENSATION

1. Continue the condensation process forming a dark storm cloud.
2. As you climb higher into the atmosphere you cool and fall back to the Earth as precipitation.
3. The heat from the sun makes you continue to evaporate higher into the atmosphere.
4. Fall to the Earth as precipitation.
5. Condense into a fog low to the ground and land and a plant to transpire.
6. Condense into a fog over a pond and form an accumulation of water.

# PRECIPITATION



# PRECIPITATION

1. Fall to the Earth as snow and land on a pine tree where you transpire back into the atmosphere.
2. Fall to the Earth as rain and accumulate into the Pacific Ocean.
3. Fall to the Earth as rain, then evaporate in the sun's heat.
4. Fall to the Earth as sleet and accumulate into a puddle.
5. Condense into a fog as you fall to the Earth and land on a plant to transpire.
6. Fall to the Earth as rain, then evaporate in the sun's heat.

# ACCUMULATION



# ACCUMULATION

1. The heat from the sun makes you evaporate from your body of water.
2. You get absorbed by the roots of a plant then transpire into the atmosphere.
3. The heat from the sun makes you evaporate into the atmosphere.
4. Condense into fog and accumulate into a pond.
5. You get absorbed by the roots of a plant then transpire into the atmosphere.
6. Evaporate into the atmosphere then fall back to the Earth as precipitation.

# TRANSPIRATION



# TRANSPIRATION

1. The heat from the sun makes you continue to evaporate into the atmosphere.
2. As you climb higher into the atmosphere you cool and condense into a liquid to form a cloud.
3. The heat from the sun makes you continue to evaporate.
4. Condense into a fog and accumulate into a pond.
5. Condense into a fog and land on a plant to transpire again.
6. Evaporate into the atmosphere then fall back to the Earth as precipitation.

Name \_\_\_\_\_

# \_\_\_\_\_

Date \_\_\_\_\_

# WATER CYCLE DICE SIMULATION

1	Begin	1 1	
2		1 2	
3		1 3	
4		1 4	
5		1 5	
6		1 6	
7		1 7	
8		1 8	
9		1 9	
10		2 0	

# SAMPLE RECORDING SHEET FOR WATER CYCLE DICE SIMULATION

1	Begin as Transpiration	11	Condense into a cloud
2	Condense into a cloud	12	Continue to condense into a large storm cloud
3	Fog onto plant to transpire	13	Fall to the Earth as precipitation
4	Continue to evaporate	14	Accumulate into a pond
5	Condense into a fog and accumulate	15	Absorbed by roots and transpire
6	Absorbed by roots and transpire	16	Continue to evaporate into atmosphere
7	Condense into a cloud	17	Condense into dark storm cloud
8	Continue to condense into large storm cloud	18	Fall to the Earth as precipitation
9	Fall to the Earth as rain and accumulate	19	Accumulate into a puddle
10	Evaporate into atmosphere	20	Evaporate into the atmosphere

# TEACHER DIRECTIONS FOR NARRATIVE

- After completing the dice simulation, students are ready to write a narrative from the point of view of carbon traveling through earth's 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 topic for the narrative is included.

# SAMPLE NARRATIVE

Early in the morning, I awoke as a tiny drop of dew on the leaf of a beautiful sunflower. I was a bit chilly, but soon began to feel the sun's warmth spread over me. I stretched my legs across the leaf and suddenly began to feel myself thinning out and transpiring into the atmosphere. I love the weightless feeling of being vapor and floating into the air.

As I rose higher into the atmosphere, I began to worry that I would never return to the Earth. Although, I know this was a silly thought because millions of times I have made this journey up, I have always fallen back. My rise slowed down and I began to see many of my old friends from past journeys. As we slowed we began to come together to condense into a cloud.

Together our cloud grew larger and larger then began to sink toward the Earth. Before I knew it, we were forming a thick blanket of fog over a swampy area. I slowly sank into the swamp with my friends where we accumulated to form a body of water, but I soon felt myself being sucked up into the roots of a tree.

I spent a fabulous amount of time in the tree, but one morning I found myself out on a leaf again where I could begin my journey through the water cycle again!

# RUBRIC FOR WATER CYCLE DICE SIMULATION NARRATIVE

	1 point	2 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 1-2 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.
Details 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.

Terms of Use: ©2015TeachingintheFastLaneLLC. All rights reserved. Purchase of this product entitles the purchaser the right to reproduce the pages for ONE CLASSROOM ONLY. Duplication for more than one classroom such as another teacher, grade level, school, or district is strictly forbidden without written permission from the author. Copying any part of this product and placing it on the internet in any form is strictly forbidden and is a violation of the Digital Millennium Copyright Act (DMCA).

**Thank you for your purchase. If you have time, please rate this product and leave me some feedback on how I can improve my products. All constructive criticism is greatly appreciated.**

**PLEASE VISIT MY TEACHERSPAYTEACHERS STORE**  
**Teaching in the Fast Lane**

**FOR MANY DIFFERENT PRODUCTS!**

<http://www.teachinginthefastlane.com>

