WATERSHED GAME — INSTRUCTOR ANSWER SHEET

Do not share with students. Add to the pool AFTER kids announce their choice.

FARMERS: BUDGET $500

Card 1: Fertilizer Day			
Option	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Buy the fertilizer and get it done today!	The rain washed the fertilizer into the watershed. **Add one cup of water w/ green food coloring to the watershed**. You also have to buy new fertilizer it washed away (thus costing $200 instead of $100)	**$200**
B)	Buy the fertilizer and wait until after the rain to fertilize.	Nothing! **Watershed unaffected!**	**$100**

Card 2: The Cows			
Option	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Allow cows to drink/cool off in the stream	Your cows bring in waste to the watershed such as manure, dirt, and fertilizer. **Add 1 cup of dirt to the watershed.**	**FREE**
B)	Build a fence and trough away from stream	Nothing! **Watershed unaffected!**	**$200**

Card 3: Stream Bank			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Plant wild grasses between field and stream	Your plants create a riparian corridor helping to protect water quality and stabilizes the land. **Add 2 cups of fresh water.**	**$100**
B)	Continue farming on the water's edge	The edge of your farm is starting to degrade into the watershed. **Add 2 cups of dirt to the watershed.**	**FREE**

Card 4: The Big Rain			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Plant more native grasses to slow the water	Your plants help to slow the running water over your crops. This prevents fertilizer and manure from entering the watershed. **Add one cup of fresh water**	**$100**
B)	Let water run over crops into the stream	The fast moving rain water carries fertilizer and manure from your fields into the stream. **Add one cup of dirt and one cup of water w/ green food coloring.**	**FREE**

The budget should be just enough for the students to make all the correct choices and end up with $0. If they choose option A for card 1 they will be forced into making at least one bad choice.

FAMILY: BUDGET $200

Card 1: Oil Change			
Choice	**Option Chosen**	**Effect on Watershed**	**Cost**
A)	Throw the oil away in the recycling bin	The recycled oil ends up in the watershed. **Add 1 cup w/ black (equal parts red, green, blue dye) food coloring to the watershed.**	**FREE**
B)	Bring the oil to a recycling center	The oil is properly disposed of! **The watershed is unaffected!**	**FREE**

Card 2: The Lawn			
Choice	**Option Chosen**	**Effect on Watershed**	**Cost**
A)	Only use fertilizer you need, away from curb	**Add 1 cup of clean water**	**$100**
B)	Use lots of fertilizer so grass grows back quicker	The fertilizer leaks into the street, the drainage, and ultimately the watershed. **Add 1 cup of water with green food coloring.**	**$200**

Card 3: Washing the Car			
Choice	**Option Chosen**	**Effect on Watershed**	**Cost**
A)	Wash car in driveway	The soap runs into the street, the drainage, and ultimately the watershed**. Add a squirt of dish soap to the watershed.**	**FREE**
B)	Bring car to a drive-through car wash	The car wash properly disposes of the soapy water. **The watershed is unaffected!**	**$100**

Card 4: Raking Leaves			
Choice	**Option Chosen**	**Effect on Watershed**	**Cost**
A)	Purchase compost bags and bag up the dead leaves.	**Your dead leaves don't wind up in the watershed. The watershed is unaffected!**	**FREE**
B)	Rake them into the street for street cleaners	**The leaves wind up in the watershed and steal oxygen from the wildlife! Add one cup of water with a bit of dirt mixed in.**	**FREE**

The budget should be just enough for the students to make all the correct choices and end up with $0. If they choose option B for card 2 they will be forced into making at least one bad choice.

INDUSTRY: BUDGET $1000

Card 1: Breaking Ground			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Start building as soon as possible	The dirt kicked up by your construction washes into the stream along with harmful chemicals from your work**. Add 3 cups of dirt and a squirt of dish soap.**	**FREE**
B)	Put up barriers to stop dirt from washing into streams	The dirt does not wash into your stream. **The watershed is unaffected!**	**$300**

Card 2: Wastewater			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Release used water into the nearest stream	You chose to release the waste water into the nearby stream. This adds many harmful chemicals to the watershed.**Add a cup of water with lots of black food coloring.**	**FREE**
B)	Spend money to create a water filtration system	The wastewater does not end up in the watershed**. Add 2 cups of clean water**	**$300**

Card 3: The Parking Lot			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Build a large parking lot next to the factory	The runoff from your worker's cars ends up in the watershed. **Add one cup of water with black food coloring.**	**$300**
B)	Continue to make workers find parking on the street	Your workers are angry that they have to walk so far**, but the watershed is unaffected!**	**FREE**

Card 4: Chemical Spill			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Take time and money to clean up and report it	You reported and cleaned up the spill correctly. **No effect on the watershed!**	**$200**
B)	Wash the spill down the drain quickly to get rid of it	The spill goes down the drain and winds up in the watershed. **Add water with black food coloring + a big squirt of dish soap**	**FREE**

There is not enough money in the budget for students to make all the correct choices here. They will likely have only $100 left by Card 4. This is an opportunity to teach about the real world issues we run into when making these decisions. Unfortunately saving money is often the reason for pollution!

POLITICIANS: BUDGET $1000

Card 1: Budget Time			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Build a new road through the forest near the stream	The new road causes runoff and debris to fall into the forest streams**. Add one cup of water with black food coloring**	**$100**
B)	Restore a wetland area that was drained years ago	The wetland helps keep your watershed healthy and active! **Add 3 cups of fresh water to the watershed.**	**$300**

Card 2: Fertilizer & Farmers			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Allow farmers to continue fertilizing	Fertilizer winds up in your watershed from excess farmer use**. Farmers add one cup of water with green coloring.**	**FREE**
B)	Pass a law limiting farmer fertilizer usage	**Fertilizer levels in the watershed decrease! Farmers add one cup of fresh water to the watershed.**	**$200**

Card 3: The Old Pipe			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Patch the pipe temporarily and wait for money	The patch fails in a month of two. Sewage leaks into the watershed. **Add one cup of water with dirt mixed in.**	**$100**
B)	Fix the pipe now and raise everyone's water bill	Sewage does not leak into steam **but politicians must take $100 from each group. Is this worth it?? Students must decide.**	**$100 (from every group)**

This is an important choice! They could patch the pipe for $100 or fix it permanently for $400 ($100 from every group). Sigh….. politicians. This will force other groups into making bad choices. What is best for the watershed? Let the students decide!

Card 4: Factory Jobs			
Choice	**Option chosen**	**Effect on Watershed**	**Cost**
A)	Allow the factory to hire more workers	More output means more wastewater. The old waste water systems that industry built fail and waste water ends up in the watershed. **Add two cups of water with black food coloring.**	**$400**
B)	Don't allow the factory to hire more workers	No jobs are created but **the watershed is unaffected!**	**FREE**

The politicians should have exactly enough money to make all the correct choices. If they have any left over money they can give the other groups "grants" to help them pay their way.