

Matter And Energy At The Beach

" Listen up everyone!" shouted Marie's mom. All of the kids at Marie's birthday party gathered around to hear about the next game. "Now we're going to have a scavenger hunt. Each team will get a list of questions and a camera. The object of the game is to find the item that is the answer to the question and take a picture to prove that you found it. The first team to find and photograph all of the answers to the questions wins the scavenger hunt. Here are your lists. Ready, Get set, GO!"

My team quickly scanned our list of questions.

1. What kind of stored energy powers a radio? (batteries)
2. What are the forms of stored energy? (food, fuel, batteries)
3. What are the three forms of matter? (solid, liquid, gas)
4. What kind of energy does the sun provide? (light and heat)
5. What changes occur when objects are heated? (melting, evaporation—ice bucket/cooler)
6. How is stored energy converted into motion and heat? (eaters, jogger, propane grill, remote control car)
7. Find an example of a solution and a mixture.

"Oh, this is going to be hard. We can't win." lamented Amy.

"Don't say that. I know the first answer. Batteries are stored energy that power a radio. Come on, we can do it!" said Josh.

"Batteries is part of the answer for number 2 also. Doesn't food give people energy?", asked Lily.

"Yes, you're right", answered Jessie, "and look over there at the people who are eating the food cooked on the barbeque grill which uses propane for energy. "

"Did you know that people eat 435 pounds of food a year and 540,000calories? Asked Judy.

"Yes, Judy." Everyone replied.

"Great!", said Josh, "now we're on number three."

"I know the three states of matter from first grade when we studied the water cycle. There are solids, liquids, and gases."

"I remember that too. We can use the ocean as the example of a liquid, sand can be the solid, and water vapor can be the gas. It's part of the water cycle!"

"Did you know that the ocean is actually a mixture of salt, water, etc.?" asked Arnold.

"Yes, Judy." Everyone replied.

"It's so hot, can't we find some shade to get out of the blazing sun?" complained Amy.

"We haven't time for rest, this is a race but you did give us the answer for number four" exclaimed Jessie. "The sun provides light energy and heat energy."

"Did you know that the sun is actually a fiery ball of burning gas?" asked Judy.

"Yes, Judy." Everyone replied.

"The blue ice chest holds the answers for number five. When the sun heats the ice cubes, which are a solid, they melt and become liquid water. "

"Then the sun continues to heat the water and the heat causes evaporation. I think those are all of the changes that occur with heat."

"Good, we're half-way through the list. Do you see any examples of stored energy converted into motion and heat for number six?"

"Well earlier we decided that batteries are stored energy, so wouldn't that remote controlled car be an example of stored energy converted into motion?"

"If food is stored energy then people eating and then running or swimming would be another example of stored energy converted to motion."

"Propane is the fuel of the barbeque grill and it is definitely creating heat. We covered all the questions."

"Last question, we need a solution and a mixture. Does anyone know what they are?"

"Well, my mom always says that fruit salad is a mixture of fruit because the different fruit is mixed together but I can still pick out the strawberries. They are my favorite."

"We need an example of a mixture we can find at the beach."

“What about the ocean? It is a mixture of sand and water. When the waves crash, the sand gets stirred up and mingles with the water but eventually the sand settles to the bottom again.”

Great! Now, what could be our example of a solution?”

“I know that I hate swallowing ocean water by accident because it tastes salty. Could the salt water be a solution?”

“Yes, it is. The salt is dissolved in the water. We can’t separate the salt from the water unless we were to evaporate the water and the salt would be left behind.”

“We answered everything! Let’s go. We might be the first team to finish!”

We ran back to find Marie’s mom and dad standing together. There were no other kids in sight.

“And the winner is..... Lily, Jessie, Josh, Arnold and Amy!!! Congratulations! Your prize is a banana milkshake. All of our runner-up teams get fruit salad.”