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**YOM MAD SCIENCE!!!!!**

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**Time Peulah Location**

8:00 Aruchat Boker Chadar Ochel

8:45 T’fillot BAA

9:45 Nikayon Tzrifim

10:45 Space Race Lower Migrash

11:45 Peulat Tzrif Tzrifim

12:45 Aruchat Tzohorayim Mirpeset

1:15 Menucha Tzrifim

2:15 Magic School Bus Outside/BAA(rain)

3:15 Neuroscience BAA

3:45 Glidah Gladness!! O”CH

4:15 ICE AGE BAA

5:45 Bechirot

6:30 Aruchat Erev Chadar Ochel

7:15 Physics BAA

8:00 Lilah Tov Tzrifim

# Bill Nye Tfillot:

Welcome to Bill Nye Tfillot! In this edition of tfillot we will explore how the tfillot that we say everyday are related to the world of mad science. Get excited because (eikev) Bill Nye is about to blow your mind with science that’s related to our very own Siddur Sim Shalom!

Matchilim Tfillateinu Ha’boker with Birkot HaShachar b’amud 10 -- na lakum

*Do Birkot Hashachar*

One of the brachot that we said in Birkot Hashachar is “rokah ha’aretz al hamayim” which thanks god for “spreading the earth out over the waters.” Here are two clips that talk about the earth and water!

**Play Birkot HaShachar Clip**

*Do Baruch SheAmar through Ashrei and then stop after Asherei*

Whenever we talk about hallelujah (b’amud 88), we always bring up the various instruments mentioned to praise god. We talk about the types of instruments… but never about *how* these instruments work -- don’t worry, Bill Nye is here to tell us all about that!

**Play Hallelujah Clip**

V’achshaaaaaaaavvvvvv Hallelujah b’amud 88!!

*Do Hallelujah through right before El Baruch*

El Baruch discusses the light God shines all over the world to keep us warm and protected.. and now lets watch this awesome clip about how the atmosphere works and keeps warm!

**Play El Baruch Clip**

*Sing El Baruch up until Or Chadash*

As you all know, Or Chadash is all about the sun. The sun is not only important to our tfillot, but also to our happiness at camp and the world in general. Now lets take a closer look with Bill to see how big of an impact the sun really has.

*Sing Or Chadash*

The key theme of Ahava Raba is love. Now what do we associate most with love? The heart! The heart is a complicated organ that pumps blood to your body every second in order to keep you alive. Lets have Bill take us through a more in depth explanation of the hearts function!!! WOOHOO

**Play Ahava Raba Clip**

*Sing Ahava Raba*

A lot of us probably associate the Shma with the eyes and sight because we cover our eyes, but it is actually more associated with the ear. Shma’s literal definition is to hear or listen, so we say shma yisrael, hear o Israel, we are command to hear God tell us there is one God. Now lets have Bill teach us how the ear actually works and how we can literally hear “shema”.

**Play Shema Clip**

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# Space Race Game

* Goal: the goal of the game is to get your asteroid (ball) into the black hole (net/bucket) by throwing it from behind an orbit (ring) that surrounds the black hole, this is so it is more difficult to score
* Materials: 2 foam balls, 2 hoola hoops, 2 buckets
* Location: lower migrash
* There are two galaxies (teams) that start at their home bases around their black hole, they must come up with their galaxy names before the game begins
	+ Shooting stars: must only run in straight lines following the length of the playing field to shoot the ball into the black holes, you can pass between yourselves and the comets
	+ Meteors: your job is to get your opponents out, if you collide/tag with an opponent then that person must go back to their galaxy (home base) and restart
	+ Moons: must spin while moving but you can move in any direction in order to prevent the other team from scoring, essentially you are the defense
	+ Comets: you are also on the offensive side of the game, you can only move in straight lines but in the direction of the length of the field, perpendicular to the shooting stars, you can pass between yourselves and the shooting stars in order to score the ball into the black hole
	+ Gravity Goalie: your job is to block asteroids that are being shot into the black hole, you may use any part of your body, if you make a save you may throw the asteroid to a shooting star or comet on your own team no farther than half court to put the game back in play
* The top 3 kvuztot will bea team, and the bottom 3 kvutzot will be a team
	+ So 23 kids each team
		- 1 gravity goalie
		- 5 shooting stars
		- 5 moons
		- 6 comets
		- 6 meteors

# Peulat Tzrif

Volcanos:

Materials:

Vinegar

Dish washing soap

Water bottle

A glass

Baking soda

Food coloring

Steps:

1. Fill your glass with warm water.
2. Put some of the red food coloring in the water and mix with a spoon.
3. Pour the food-colored water into the water bottle. The water bottle has to be about 7/8 full so you might have to repeat steps two, three, and this one depending on the size of your glass.
4. Now add six drops of your dish washing soap to the water bottle.
5. Add 2 tablespoons (tbsp) of baking soda.
6. Now build the mold of the volcano around the water bottle using the clay. You want your volcano to look realistic.
7. Finally, pour the vinegar in the bottle SLOWLY. It will start rising up out of the bottle as soon as it hits the liquid, so take the funnel away from the bottle quickly to see it erupt.

Ooblek:

Materials:

2 cups corn starch

1 cup water

A few drops of food coloring

* Step One: Pour 2 cups cornstarch into a bowl
* Step Two: Add 1 cup of water and stir to combine
* Step Three: If adding food coloring to your oobleck do it at the mixing stage

When mixed you should be able to press a handful of oobleck into a ball in your hand; when you release the pressure the ball should “melt” back into a liquid.

* If your oobleck is too watery, add a couple tablespoons of cornstarch and mix
* If you’re oobleck is too flaky or solid, add a couple tablespoons of water and mix.
* Oobleck tends to dry out quickly with a lot of play. If that happens simply refresh it by adding a little more water.

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# Magic School Bus Scavenger Hunt

* + Running around as a “bus” of 7 kids and completing small challenges that must be videotaped by madrichim, race to complete all the challenges (7 groups of 7)
	+ First kids must come up with bus names and bus countoff/jingle
	+ Episode: digestion, camp location: from the chadar to the beit am gadol
		- Challenge: climb through the digestive obstacle course
			* Chewing: walk like a crocodile
			* Esophagus: climb through the tunnels
			* Stomach: make three foods out of play dough that would be in your stomach after breakfast
			* Small intestine: sort the nutrients form what is good or bad
				+ Sort the paper clips into piles based off of their color
			* ~~Large intestine: sponges with water~~
				+ ~~Do a relay race with your team using only sponges to get all the water from one bucket into the other bucket~~
			* Toilet: throwing balls into hoops
				+ Aim the ball into
	+ Episode: water cycle, camp location: mirpeset
		- Challenge: make a 20 second rain dance and song to summon the geshem
	+ Episode: Animal habitats, camp location: goats
		- Challenge: film a 30 second conversation with the goats about their living accommodations
	+ Episode: photosynthesis, camp location: flowers by maodon ilanot
		- Challenge: come up with the flower’s makolet order and explain why
	+ Episode: gravity, camp location: cafe ramah
		- Challenge: create a dramatic skit of what would happen if there was zero gravity in cafe ramah
	+ Episode: static electricity, camp location: sif
		- Challenge: blow up a balloon and rub in on your hair until you look like a mad scientist

# Neuroscience: Brain games/Magic

* Location: beit am aleph
* We will watch the video clips on the projector that was set up previously from tfillot
	+ <https://www.youtube.com/watch?v=80x-uq8iy_k>
		- Watch this short clip describing different types of optical illusions
		- Afterwards make your own optical illusion with your group
	+ Riddles:
		- <https://www.youtube.com/watch?v=_tLpJlFNqBs>
		- Watch this short interactive clip where the kids will guess the answers to the riddles in the time given during the video
		- Afterwards they will come up with two of their best riddles and present them to the group
		- Try your best to make them original and clever and to stump the rest of the edah!
	+ <https://www.youtube.com/watch?v=Tf0XBkpCnwI&frags=pl%2Cwn>
		- Watch this short clip which shows a magic trick based of perspective
		- Afterwards, come up with your best magic trick with your group

Materials: a deck of cards, sheet, cup, hat, ball

Physics

* + Your mission is to engineer a parachute to protect the egg as you drop it from a great height
	+ Think about:
		- How do we make the egg fall slowly?, what will catch the air?
		- How do we cradle the egg to make sure it doesn’t break when it falls?
		- How heavy is the egg?
	+ Materials: paper, string, popsicle sticks, tissues, tape, water bottle caps, sanitary blue gloves, blue masks maybe?
	+ 
* After every kvutza is done building their things, go to the gan swings and Emma is going to drop them off the swing set (thank the lord we have at least one good use for those swings) to see which kvutzot engineered a safe landing for their egg

# MAGIC SCHOOL BUS

YOU NEED TO:

* Decorate your bus
* Create a team name
* Create a bus count-off/jingle