The Night Janitor

Opening skit. One teacher comes on 'stage' wearing robe, slippers, holding stuffed animal. Yawns, lays down on 'bed' of chairs. Closes eyes, makes sleepy noises.

Second teacher comes on 'stage' wearing old shirt, old rags hanging out of back pockets, cap on head, carrying pail which holds cleaning products, scrubbers.

Second teacher quietly turns to audience asking "Is she asleep?" Goes over to sleeper, moves hand back and forth over sleeper's eyes. Whispers loudly to audience, "I think she is. It's time for me to go to work".

The teachers go center stage, say "**Welcome to the Night Janitor!**"

Thomas Edison, who gave us the light bulb said "Sleep is an absurdity, a bad habit."
Who agrees with Edison?

Well certainly these teachers do not agree with Edison. Every living thing on earth from humpback whales to one celled organisms such as plankton and yeast needs some type of sleep or rest or way of napping. For most animals sleep is not about organizing memories, but more about preservation of life. Being awake, making decisions, and trying to not being killed or eaten is tough.

Here is an interesting quiz to see - How many hours do other creatures sleep?
Hand out Quiz and pens if needed. Hint - read the right hand list first.
Give group 3 minutes. Go over correct answers as a group.

1. What is happening in your brain as you sleep?

A 100 years ago Americans slept closer to nine hours a night, now its closer to less than seven hours. We sometimes think of sleep as an adversary interrupting our busy important lives. 80 million American adults are chronically sleep deprived.
This saying should be carved into a sign for every home, truck and car.
Sleep may be more essential than food.

People fight sleeplessness trying to stay awake to enjoy more fun with friends, study for a test, or finish reading a spell- binding novel. Mugs of coffee, sodas or binging on dark chocolate equal too much caffeine. Bright lights, flashing lights, blue light from electronics flood your brain with stimulation. Thinking you'll catch more sleep over the weekend. There is no bank where you can draw out more sleep.

Stages 1 - 2 of Sleep

You climb in bed, lights out, you relax, your eyes close. Your pineal gland is pumping out melatonin the hormone that helps regulate your sleep-wake cycle. Where is this magical gland that looks like a tiny pinecone and is only the size of a grain of rice? Its tucked between the two halves of your brain.

You are now bathed in melatonin, its like you are traveling down a long hallway turning off your sensory receptors - flick off, you no longer hear a ticking clock, flick off, worries float away, flick off, the feeling of cold feet disappears. Then its like your brain turns a corner in that long hallway and you are asleep.

You are either awake or asleep, there is no middle ground.

You're in **stage one** for maybe 5 minutes. Its the shallow end of sleep.
Then a series of 1/2 second electric sparks called Spindles zap your cerebral cortex. (Think of the sparkplug that starts your car.) The cortex is the gray pleated matter covering the outer layer of the brain, home of language and consciousness. You're now in **stage 2.**
Your brain isn't less active when you sleep, just differently active.

Its believed those sparks stimulate the cortex to save new information and maybe link it to established knowledge in your long term memory. (Think of long term memory as your own library and scrapbooks.) New tasks, whether mental or physical increase more spindles. Tasks like learning to Tango, or play the piano or speak French. The next day you can better perform that new task. The more spindles/sparks might predict more intelligence.

Who hasn't been frustrated with a project, writing a difficult letter or understanding a a problem. What should you do? Eat on it? or Sleep on it! The old saying is powerful. While we sleep our brain makes connections we might never have consciously thought of or a new idea is realized. *(Sally's teaching story)*
While you sleep your active brain switches from recording to editing and sorting which memories to keep and deciding which to toss.
It doesn't always choose wisely.

"Sleep reinforces memory so powerfully - that it might be best if exhausted soldiers returning from harrowing missions did not go directly to bed until their ordeal is mentally resolved. Helps to forestall post-traumatic stress disorder. "
We call it PTSD. national Geographic 8/2018

Stage two last up to 50 minutes of the first 90 minute sleep cycle. page two

Now Spindle sparks taper off, your heart rate slows, core temperature drops - you are really out. You dive into **stages three and four**, the deep parts of sleep. You enter a deep, coma-like sleep. A time for your night janitor to get to work. Not a time of dreaming. *(One teacher acts this out, eyes closed, sags, head drops.)*

Its in deep sleep our cells produce the most growth hormone to protect our bones and muscles. Sleep is needed for keeping a healthy immune system, body temperature and blood pressure. Good sleep most likely reduces our risk of developing dementia.

". . . . while we're awake our tiny neurons are packed tightly together in our brain, but when we're asleep, some brain cells deflate by 60%, widening the spaces between them. These intercellular spaces are dumping grounds for the cells' metabolic waste - notably a substance called beta-amyloid, which disrupts communication between neurons and is closely linked to Alzheimer's." National Geographic 8/2018

This is when our night janitor picks up his pail of our spinal fluid and sloshes it through the spaces of our brain, mopping and washing beta-amyloid away.

You're fully relaxed, you hear no sloshing noises, feel no pain as you're in such a deep sleep, you're not far from being in a coma or brain dead. Thirty minutes of cleaning and you **need** to move out of this part of cycle four. When this happens sleepwalkers will feel their body jerk.

We will pause for a moment to talk about other interesting sleep related information.

Evolution has left us with malleable sleep, able to change our sleeping times. Even in deep sleep your brain has an override emergency switch. Its the middle of the night and your child cries, or you hear a window break, or your four year old leans over your bed & whispers in your ear "I think I'm going to throw up".
Your eyes kind of fly open, you are awake!

People who brag they can fall asleep quickly just about anywhere - if they are under 40 years old, they are probably acutely sleep deprived.

People who don't get enough sleep hit the jackpot of unhappiness.
More irritable, moody, irrational, make poor decisions, trouble solving problems, elevated risk of depression, psychosis, stroke, and gaining weight.

Sleep-deprived suspects held by police, will confess to anything in exchange for rest.

Now we enter REM sleep . . . . hold on it's going to be a bumpy ride!

" In a wild state of psychosis, we're dreaming, we're flying, and we're falling - whether we remember it or not. We're also regulating our mood and consolidating our memories."

REM means rapid eye movement. This was only discovered and named in 1953. There is a distinctive eye darting, back and forth. All vivid dreaming takes place in this phase. When a person is in a healthy sleep pattern he/she will experience a five-to-20 minutes REM period. Our brain goes into freewill and does as it wishes through dreams. It is the playtime of the brain!

REM sleep is when we are at our most intelligent, insightful, creative and free.
IT IS WHEN WE TRULY COME ALIVE. *Did you realize this?*

Every time we experience REM sleep, we literally go MAD. We fully believe that what is playing in our mind is real. We accept that we are standing in front of the class in our underwear, being chased by an angry beast, or there are really chocolate and vanilla hamburgers at McDonalds.

Your dreams are tailored just for you. They are your scraps of experiences, memories, worries or fantasies. When you wake you stitch some of these dreams into reality trying to figure out what they mean. No one really knows. They guess.

Our dreams last for about two hours a night but they do decrease as we age. Maybe we are not learning or experiencing as much during the day as we use to. Can you remember nights when your sleep was filled with dreams after a very busy day of meeting people and seeing new sights? *Have you noticed fewer dreams?*

A fetus, starting at about week 26, remains in a quiet state very similar to REM sleep. Newborn infants sleep up to 17 hours a day and spend about half in active REM-like condition. All this REM time is the equivalent of the brain testing its software, preparing to come fully on line. It's nothing less than the young mind taking in all the new sights and sounds. Remember when you were carrying your baby, how quiet at times, he/she was and then they became very active? Elbows and feet flailing.

During REM our internal body temperature remains at its lowest setting. We are truly out cold. Heart rate increases and breathing is irregular. Muscles - eyes, ears. heart, diaphragm - are immobilized. During this time we do snore! We are incapable of physical response.

REM sleep is ruled by a deep-brain region . . the untamed jungle of the mind. This is where some of our most savage instincts arise. It is home to our sex drive, aggression, and fear. **Though it also allows us to feel elation, joy and love.** Our pleasant dreams occur as often as the nightmares. Scary dreams are more likely to wake us and we are very aware of the dream.

Our eyelids usually remain closed, but the eyeballs bounce from side to side . . in response to our dreams. Our inner ears are active while we dream, that is why there is a sense of flying or falling. Wow! **We dream in full color.**

Every time a man dreams, even if the content isn't sexual, he has an erection.
In women, blood vessels in the vagina are engorged. What a SURPRISE! And while we dream we're almost always convinced we're awake. We have an ultimate virtual reality machine inside our head.
Remember we are paralyzed during REM . . . thank goodness!

You may have read or heard of folks who act out their dreams. This is a REM behavior disorder. The brain does not stop the physical reaction. These people will punch, kick, and swear, all while their eyes are closed and they are fully asleep. Military soldiers may experience this behavior or a person who has faced a traumatic experience. (Share any relevant personal experience.)

How often do you awake, at the first light of day, as you are having one last dream? REM has ended now and it is time to rejoin your real life.

Your feet hit the floor and you are back to your busy life of cooking, volunteering, driving, grocery shopping, texting and talking.

Welcome back from your trip to visit the night janitor!

"The real wonder isn't why we sleep. It's why, with such an incredible alternative available, do we bother to stay awake."

Hand out evaluations.

Resources - National Geographic 8/2018. Reader's Digest 10/2019.
Secrets of Sleep 5/2010. Popular Science 12/18. Sleep Foundation, What happens when you sleep.

Anne Engen
Sally Wyffels
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If you have time at the close of teaching this lesson, share this page.

Inspirational Dreams

It's surprising what genius ideas showed up in the dreams of these famous people.

Paul McCartney, one of the Beatles, dreamed the song "Yesterday".

The author **Robert Louis Stevenson** had a drug-induced nightmare dreaming a crazy story, his screams woke his wife. He wrote down the book "The Strange Case of Dr. Jekyll and Mr. Hyde". His wife burned the pages as she thought it nonsense. He worked for three days to rewrite the story. The book was a hit and got the Stevensons out of debt.

Elias Howe was frustrated trying to develop a machine that could stitch together fabric. Elias dreamed he was about to be executed. Guards escorting him to the executioner's block waved spears - and each spear had a hole in the sharp tip. Elias got the idea to pass the thread through the point of the needle instead of the blunt end. And the sewing machine was born.

Keith Richards, singer with the Rolling Stones, described what happened. "I go to bed as usual with my guitar, and I wake up the next morning, and I see that the tape (in his cassette recorder) is run to the very end. And I think, well, I didn't do anything. Maybe I hit a button when I was asleep. So I put it back to the beginning and pushed play, and there, in some sort of ghostly version, was the opening lines of "Satisfaction". It was a whole verse of it. After that, there's 40 minutes of me snoring". He's talking about the famous rock song "I can't Get No Satisfaction".

How Many Hours Do Other Creatures Sleep?

Match creatures to the amount of their sleep by drawing a line to connect them.

Horses	lower their antennae while napping and are sensitive to caffeine
3 Toed Sloth	sleep about 20 hours
Giraffes	pulsing of their bodies slows down
Cockroaches	booming sounds reverberate in brain
Elephants	in wild 2 hours, in zoo 4 to 6 hours
Baby Orca Whales	nap while gliding
Brown Bats	no sleep for first month
Human has exploding head syndrome	rest in a pile on ocean floor
Nurse Sharks	part of night standing, part lying down
Jellyfish	sleep one brain hemisphere at a time
Dolphins	sleep 10 hours a day, pooh once a week
Human with Klune-Levin Syndrome	sleep less than 2 hours, has small horns
Great frigate birds	can sleep for a week or two, wake up fine

How many did you correctly connect?

Answers to the Quiz "About How Many Hours Do Other Creatures Sleep?"

Horses - sleep part of night standing, part lying down

3 Toed Sloth - sleep 10 hours a day, poohs once a week.

Giraffes - sleep less than 2 hours, has small horns.

Cockroaches - lower their antennae while napping, are sensitive to caffeine

Elephants - in wild 2 hours, in zoo 4 to 6 hours

Baby Orca Whales - no sleep for first month

Brown Bats - sleep about 20 hours

Human has exploding head syndrome - booming sounds reverberate in brain

Nurse Sharks - rest in a pile on ocean floor

Jellyfish - pulsing of their bodies slows down

Dolphins - sleep one brain hemisphere at a time

Human with Klune-Levin Syndrome - can sleep for a week or two, wake up fine

Great frigate birds - nap while gliding

Oregon Association For
Family & Community Education

Lesson/Program Evaluation

Lesson/Program _____

Date Given_____

Participants' Group (Study Group, District, State Conference) _____

County _____

Presenter(s) _____, _____, _____

What did you learn from the lesson/program?_____

_____

_____

How will you use the information? (i.e. what changes will you make in your attitude/

approach toward the subject area?) _____

_____

Would you like to have more information on this subject or on another subject?

_____

_____

PARTICIPANTS: DO NOT WRITE BELOW THIS LINE; FOR PRESENTERS ONLY

Leaders: Please use one of the evaluation forms to write your evaluation of the lesson and any comments about improving/adding to the presentation.: _____

_____

Number of FCE members reached with program _____ Non FCE participants _____

Name(s) of presenter(s)_____ _____

Expenses incurred in preparing/teaching the lesson $_____

Return these forms to the appropriate member of your County Council.

County Council: Please compile the information from these evaluations and report it to your District Director semi-annually, January 15th and July 15th. Also, send a copy of this information to the Oregon FCE Vice President for Program.