



ARIZONA SCITECH
SIGNATURE
event



ARIZONA SCITECH FESTIVAL

Activity Worksheets



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WEEK 1: GETTING STARTED WITH STEM

weird wednesday

HIGH SCHOOL

create YOUR OWN CODE!

Help Nova create a secret code to share his top creative ideas with friends. Create a symbol for each letter and number and write or draw them in the boxes below. When you are done write a message in your very own top-secret code!

A	B	C	D	E	F	G	H
I	J	K	L	M	N	O	P
Q	R	S	T	U	V	W	X
Y	Z	1	2	3	4	5	6
7	8	9	0	!	?		

MY SECRET CODE:

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WEEK 2: EXPLORING OPTIONS IN STEM
 THINGS TUESDAY

HIGH SCHOOL

NOVA'S DNA

Everyone in Nova's family has light green skin, which is the dominant trait for body color in his hometown of SciTech Valley. The family brags that they are a "purebred" line. Nova recently got married to another gecko who has light blue skin, which is a recessive trait. Create a Punnett square to show the possibilities that would result if Nova had children. Use *g* to represent the dominant gene and *b* to represent the recessive gene.

- A. What are the parent's genotypes? ____ x ____
- B. Complete the Punnett square.
- C. What are the chances of a child with a blue body? ____%
- D. What are the chances of a child with a green body? ____%
- E. Would the children be considered purebred? Explain.





WEEK 2: EXPLORING OPTIONS IN STEM
TIP THURSDAY FAMILY

SLEEP DEMONSTRATION PRE SURVEY

Complete the following survey by circling answers or filling in the blanks

1. How many hours of sleep do you believe you need each night?

Less than 6 hours 6 hours 7 hours 8 hours more than 8 hours

2. Fill in the table below based on your average sleep schedule during the school year.

Days of the week	Time you go to bed	Time you fall asleep	Time you wake up	Total hours of sleep
Sunday				
Monday				
Tuesday				
Wednesday				
Thursday				
Friday				
Saturday				

3. Do you believe you get enough sleep each night?

YES NO

4. Do you sleep with a television on in your bedroom?

YES NO

5. Do you sleep with music playing in your bedroom?

YES NO

6. Do you sleep with any light on in your bedroom?

YES NO

7. Do you share a bedroom with anyone else?

YES NO

8. Do you ever get too hot or cold while sleeping?

YES NO

9. Do you bring electronic devices such as smartphones into bed with you?

YES NO

10. Do you eat or drink anything right before going to bed?

YES NO

11. List anything else that might distract you while you are trying to sleep.

YES NO



DIRECTIONS:

COMPLETE THE FOLLOWING QUESTIONS WHILE WATCHING THE STEMONSTATION SLEEP SCIENCE VIDEO.

1. List some of the hazards that lost sleep can have on your daily routine.
2. Define the circadian rhythm.
3. Astronauts in space experience _____ sunsets and sunrises each day.
4. These sunrises and sunsets experienced aboard the space station can cause _____ and _____ on long duration spaceflight.
5. Astronauts in space sleep in _____ where they can control different aspects of their environment to create a better night sleep.
6. Minimizing _____ created from digital devices directly before sleep time can help create a better night's sleep.
7. _____ prevents astronauts from floating during sleep as a result of the air currents in the space station.
8. What are three benefits of a good night's sleep for the astronauts living and working in microgravity?



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WEEK 2: EXPLORING OPTIONS IN STEM
TIP THURSDAY FAMILY

SLEEP DEMONSTRATION POST SURVEY

Complete the following survey by circling answers or filling in the blanks

1. How many hours of sleep do you believe you need each night?

Less than 6 hours 6 hours 7 hours 8 hours more than 8 hours

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3. Do you believe you get enough sleep each night?

YES NO

4. Should you sleep with a television on in your bedroom?

YES NO

5. Should you sleep with music playing in your bedroom?

YES NO

6. Should you sleep with any light on in your bedroom?

YES NO

7. Should you bring electronic devices such as smartphones into bed with you?

YES NO

8. Should you eat or drink anything right before going to bed?

YES NO

9. Explain what changes you should make to your sleep schedule and environment to gain more energy and be healthier and more productive during the day.



WEEK 2: EXPLORING OPTIONS IN STEM
TIP THURSDAY HIGH SCHOOL

SOLAR ENERGY ACTIVITY

School: _____ Latitude: _____ Longitude: _____

Location B: _____ Latitude: _____ Longitude: _____

Location C: _____ Latitude: _____ Longitude: _____

	School (Clear Sky)	Location B (Clear Sky)	Location C (Clear Sky)
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

WEEK 3: THINKING ABOUT STEM
WISDOM WEDNESDAY

Elementary

WOULD YOU RATHER?

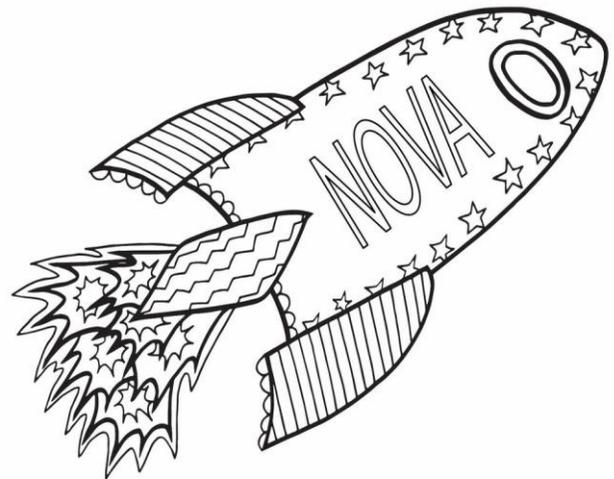
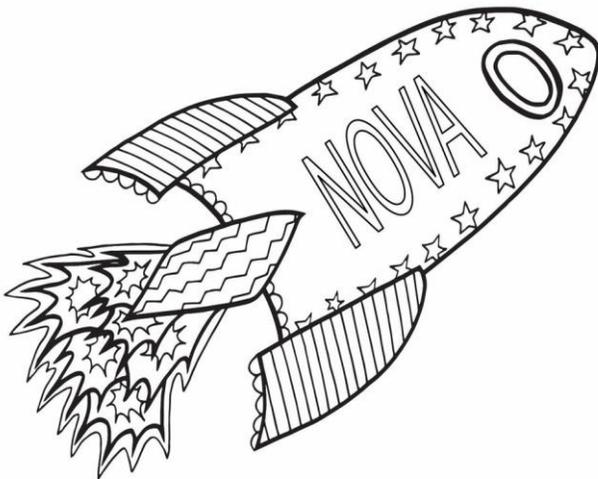
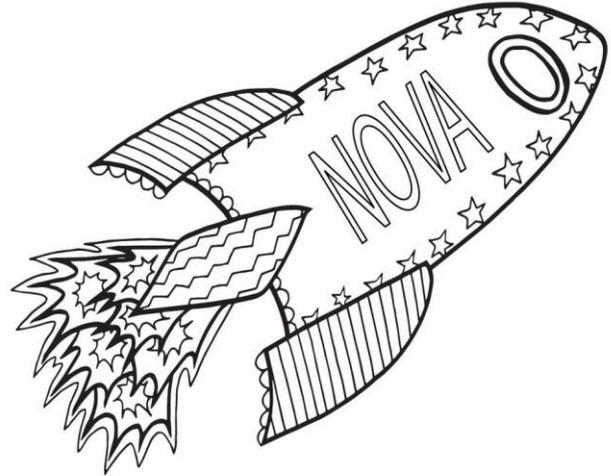
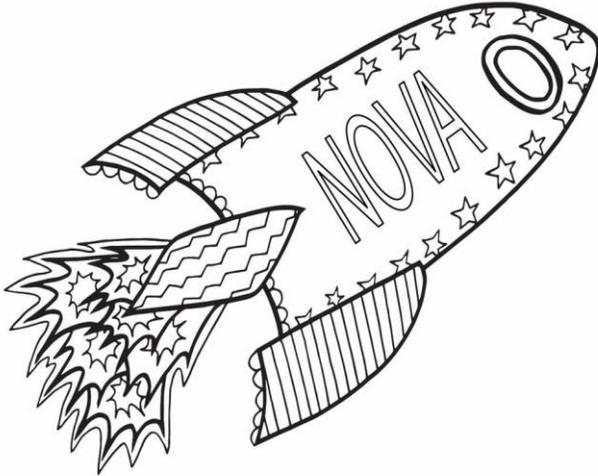
PLACE A CHECKMARK NEXT TO YOUR CHOICE!

Would you rather?			
	Build a snowman?		Build a sandcastle?
	Travel by plane?		Travel by car?
	Go ice skating?		Go and ride a bike?
	Wear boots?		Wear shoes?
	Swim with sharks?		Swim with dolphins?
	Have a fire superpower?		Have an ice superpower?
	Help with laundry?		Help with dishes?
	Eat all you want snow cones?		Eat all you want ice cream?
	Go to the library for the day?		Go to school for the day?
	Play in the snow?		Play in the rain?
	Be with a group?		Spend time alone?
	Listen to music?		Read a book?
	Drink hot chocolate?		Drink chocolate milk?
	Cold weather all the time?		Hot weather all the time?
	Have a flying car?		Have a submarine car?
	Visit the playground?		Visit the beach?

WEEK 3: THINKING ABOUT STEM
TRANSFORMATION TUESDAY

Elementary

REFRACTION OF LIGHT ACTIVITY



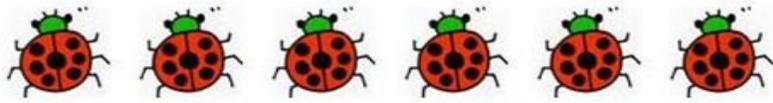
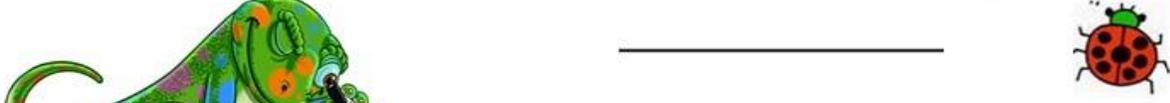
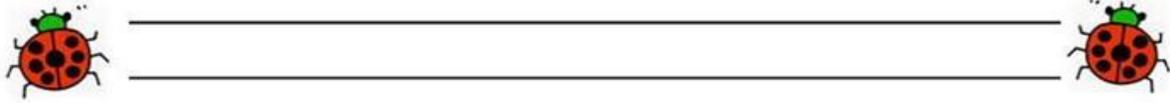


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WEEK 4: FESTIVAL HIGHLIGHTS
Friends Friday

ALL GROUPS

LETTERS TO NOVA ACTIVITY



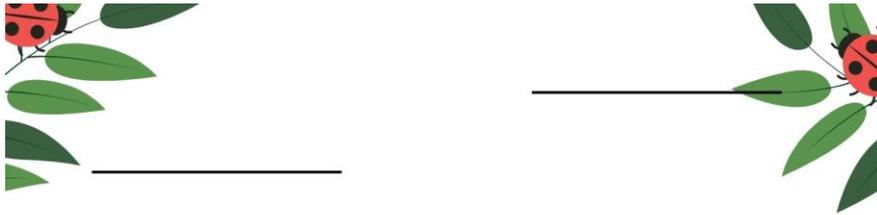


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WEEK 4: FESTIVAL HIGHLIGHTS
Memories Monday

ALL GROUPS

LETTER TO my FUTURE SELF ACTIVITY









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WEEK 4: FESTIVAL HIGHLIGHTS
THANKFUL TUESDAY

Elementary

GRATITUDE A-Z LIST ACTIVITY

A _____

C _____

E _____

G _____

I _____

K _____

M _____

O _____

Q _____

S _____

U _____

W _____

Y _____

B _____

D _____

F _____

H _____

J _____

L _____

N _____

P _____

R _____

T _____

V _____

X _____

Z _____

MADE BY: _____

WEEK 4: FESTIVAL HIGHLIGHTS
THANKFUL TUESDAY

MIDDLE SCHOOL

GRATITUDE PHOTO SCAVENGER HUNT

- Find something outside you enjoy looking at
- Find something that is useful for you
- Find something that is your favorite color
- Find something you know someone will enjoy
- Find something that makes you happy
- Find something that tastes good
- Find something that smells amazing
- Discover something new
- Find something that makes you feel safe
- Find something that makes a beautiful sound
- Find someone you are grateful for
- Find something that is unique to you
- Find something that makes you laugh
- Find something in the night that you enjoy
- Find something in the morning that you enjoy
- Find a friend/pet that you enjoy spending time with
- Find your favorite place to spend time alone
- Find something that reminds you of the people you love
- Find something that you enjoy doing with friends outside
- Find a place that you love



WEEK 4: FESTIVAL HIGHLIGHTS
THANKFUL TUESDAY

FAMILY

GRATITUDE GAME ACTIVITY

Directions: Cut into strips and fold. Place in a container and draw one to discuss as a family.

- Name a PERSON you are THANKFUL FOR
- Name a PLACE you are THANKFUL FOR
- Name a FOOD you are THANKFUL FOR
- Name a THING you are THANKFUL FOR
- Name ANYTHING OF YOUR CHOICE THAT YOU are THANKFUL FOR

THANK YOU!



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