Adjustable NSN Banner Display Frame Kit

Errata in DARK RED; only if banner has been modified for banners from the "SUPERNOVA" kit, and The Night Sky Network Member banner then follow the RED text.

This kit is adjustable to display all banners issued from Night Sky Network (NSN) either outside or indoors. This frame was field tested with all banners outside with wind gusts at 22 mph and it performed very well. None of the banners from NSN are of the same size which required a frame that would adjust to the desired banner being used. Not all parts will be used for each banner so please follow this guide to assemble the frame that will support the banner being used for your presentation.

The PVC frame is labeled with letters and color coded for correct assembly for the frame required to display the banner being used.

If using the banner outside a hammer will be needed to secure the base of the frame with tent pegs and guy lines.

ASSEMBLY INSTRUCTIONS PER BANNER:

Earth or Moon Banner from the Space Rocks Kit …….. Page 2

Sun or Solar System Banner from the Exploring the Solar System Kit …… Page 5

Earth Time Line or Water Worlds in our Solar System Banner from the Life in the Universe Kit …… Page 8

Our Magnetic Sun Banner from the Our Magnetic Sun Kit …… Page 11

All banners used with this frame will need to have two extra grommets inserted in each of the top two corners just under the existing two top corners. This helps to secure the banner to the frame and keep it tight inside the frame. Especially if used outdoors. See image below.

Earth or Moon Banner from the Space Rocks Kit

All pipes labeled A, B, K, L, M, N, and P will be used for this size banner
Pipes 1L and 1N (pre-assemble 1L and 1N to L and N respectfully and treat them as L and N for remainder of instructions)
3 quick release clips
7 bungee balls
4 tent pegs (if used outside).

Set aside all unused parts, they will not be used with this banner.

If possible place your banner, if setting up outside, with the smallest profile with the wind and also on grass so you can use tent pegs to secure to the ground.

1. **Place pieces labeled "P" about 4 feet apart parallel on the ground with the open end of the elbow on the ends facing the ground.**
2. **Insert pieces labeled "A" and match the purple pipe end to the purple 4 way fitting.**
3. **Use parts "K" (left side) and "L" (right side) for the next step. They have a "T" fitting glued to one end. Match the red side of the "T" fitting onto the red pipe end. Then attach the two gray ends together. Now you have a crossbar that should look similar to this.**

4. **[Omit this step if setting up inside.] Use the 4 tent pegs and hammer them into the ground through the holes drilled into the 4 corners of the feet. The holes are drilled at a 30° angle toward the center to help support against wind when setup outdoors.**
5. **Now insert the 2 pipes labeled "B" matching the green pipe ends into the green "T" fittings.**
6. **Assemble the top crossbar by putting pipes labeled "M" and "N" (they each have 2 yellow ropes butterflied at the elbow end) together at the gray pipe end and gray union. Make sure the eyebolts are aligned.**
7. **Set the crossbar on top of the 2 pipe ends colored Blue with the elbows colored blue with "M" on the left side and "N" on the right.**
8. **The yellow rope need only be used if setup outside. Leave them tied up if presenting inside. Unravel the butterfly rope by releasing the VELCRO strap if setting up outside. Leave the VELCRO strap attached to the end of the rope. DO NOT UNTIE OR REMOVE THE ROPES. Place the looped end of the rope around the hook side of the tent peg.**

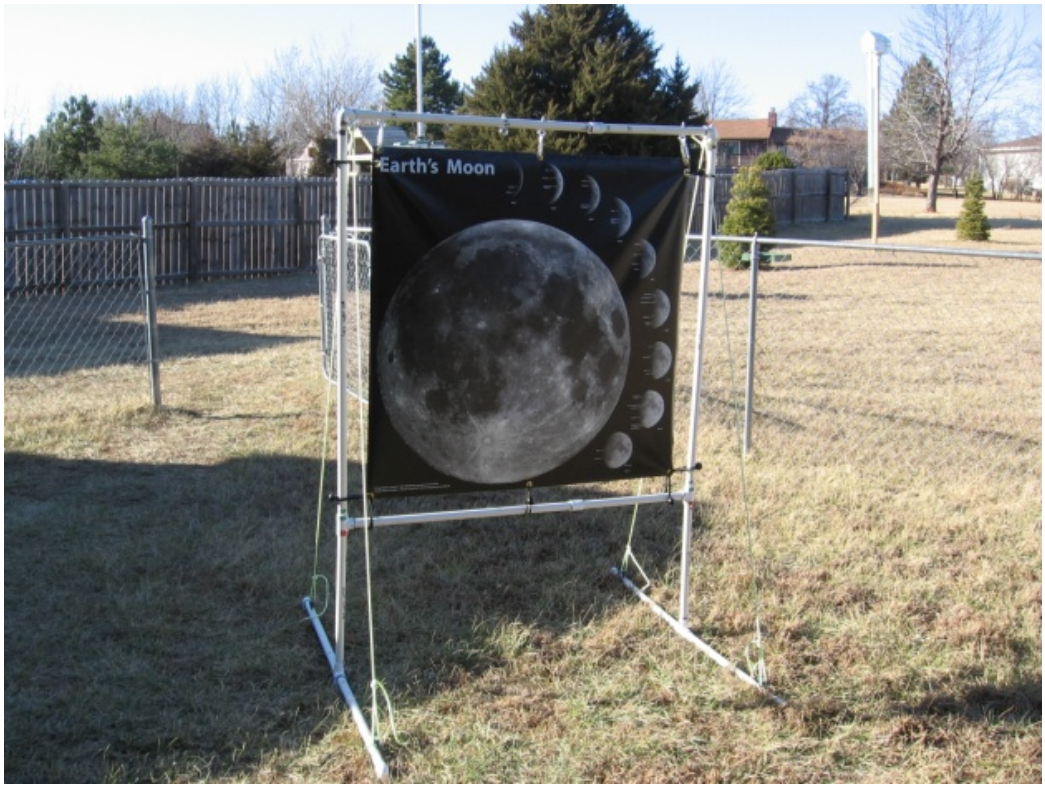
To make it easier to loop around the hook, rotate the tent peg enough to get the rope around the hook. Rotate the tent peg back parallel to the feet so the rope won't slip off. Do this for all 4 sides.

9. **The frame is now ready for the banner and should look something like this.**

10. **Attach 3 quick release clips at the eyebolts numbered 1, 2, and 3 for the Moon or Earth side of the banner. Make sure the narrow side of the clip is towards the eyebolt and the spring gate is towards the front like this. It makes it easier to attach the banner this way.**

11. **Attach the banner through the grommets across the top of the banner; photo above left.**
12. **This banner will use 7 bungee balls. Thread the bungee balls through the rest of the grommets and loop around the PVC pipe and then around the ball for a secure fit. I added an extra grommet at the top two corners for added strength to hold the banner tight inside the frame. Thread 2 bungee balls in the bottom 2 corners then secure to the vertical pipe and horizontal**

pipe. Reference photo above right. This helps the banner to remain tighter inside the frame. You are now ready for your presentation. Your banner should look like this.



Afterwards disassemble in reverse order. Make sure to remove the banner first before releasing the guy lines. This will help under windy conditions. DO NOT UNTIE THE KNOTS ON THE ROPES. Butterfly them back up using the VELCRO straps attached to the bottom of the rope. To help with separating the crossbars, lightly tap with a hammer from the bottom of the pipe near the joint. DO NOT USE THE HAMMER TO PULL THE TENT PEGS FROM THE FEET, THE PLASTIC HOOK WILL BREAK. Pull the foot up at the elbow end and the tent peg will come up without damaging the plastic hook at the top of the peg.

Sun or Solar System Banner from the Exploring the Solar System Kit

All pipes labeled A, B, C, K, L, M, N, and P will be used for this size banner
Pipes 1L and 1N (pre-assemble 1L and 1N to L and N respectfully and treat them as L and N for remainder of instructions)
3 quick release clips
9 bungee balls
Four 10" bungee cords (if used outside)
4 tent pegs (if used outside)

Set aside all unused parts, they will not be used with this banner.

If possible place your banner, if setting up outside, with the smallest profile with the wind and also on grass so you can use tent pegs to secure to the ground.

1. **Place pieces labeled "P" about 4 feet apart parallel on the ground with the open end of the elbow on the ends facing the ground.**
2. **Insert pieces labeled "A" and match the purple pipe end to the purple 4 way fitting.**
3. **Use parts "K" (left side) and "L" (right side) for the next step. They have a "T" fitting glued to one end. Match the red side of the "T" fitting onto the red pipe end. Then attach the two gray ends together. Now you have a crossbar that should look similar to this.**

4. **[Omit this step if setting up inside.] Use the 4 tent pegs and hammer them into the ground through the holes drilled into the 4 corners of the feet. The holes are drilled at a 30° angle toward the center to help support against wind when setup outdoors.**
5. **Now insert the 2 pipes labeled "B" matching the green pipe ends into the green "T" fittings.**
6. **The two small pieces of pipe labeled "C" need to be placed on top of the pipes labeled "B" matching black connector end to blue ends of pipe "B" (the Sun / Solar System banner is longer than the Earth / Moon banner)**
7. **Assemble the top crossbar by putting pipes labeled "M" and "N" (they each have 2 yellow ropes butterfly at the elbow end) together at the gray pipe end and gray union. Make sure the eyebolts are aligned.**
8. **Set the crossbar on top of the 2 small pipe ends colored blue and with the elbows colored blue with "M" on the left side and "N" on the right.**
9. **The yellow rope need only be used if setup outside. Leave them tied up if presenting inside. Unravel the butterfly rope by releasing the VELCRO strap if setting up outside. Leave the**

VELCRO strap attached to the end of the rope. DO NOT UNTIE OR REMOVE THE ROPES. Loop the 10" bungee cord around the hook of the tent peg then hook bungee onto looped end of the yellow rope like this image.

To make it easier to loop around the hook, rotate the tent peg enough to get the bungee around the hook. Rotate the tent peg back parallel to the feet so the bungee won't slip off. Do this for all 4 sides. (Adding the bungee to the end of the rope is done because the Sun / Solar System banner is the longest of all the banners)

10. **The frame is now ready for the banner and should look something like this. (this photo does not show the bungee cords attached to the tent pegs)**

11. **Attach 3 quick release clips at the eyebolts numbered 1, 2, and 3 for the Sun or Solar System side of the banner. Make sure the narrow side of the clip is towards the eyebolt and the spring gate is towards the front like this. It makes it easier to attach the banner this way.**

12. **Attach the banner through the grommets across the top of the banner; photo above left.**
13. **This banner will use 9 bungee balls. Thread the bungee balls through the rest of the grommets and loop around the PVC pipe and then around the ball for a secure fit. I added an extra grommet at the top two corners for added strength to hold the banner tight inside the frame. Thread 2 bungee balls in the bottom 2 corners then secure to the vertical pipe and horizontal pipe. Reference photo above right. This helps the banner to remain tighter inside the frame. You are now ready for your presentation. Your banner should look like this.**

Afterwards disassemble in reverse order. Make sure to remove the banner first before releasing the guy lines. This will help under windy conditions. DO NOT UNTIE THE KNOTS ON THE ROPES. Butterfly them back up using the VELCRO straps attached to the bottom of the rope. To help with separating the crossbars, lightly tap with a hammer from the bottom of the pipe near the joint. DO NOT USE THE HAMMER TO PULL THE TENT PEGS FROM THE FEET, THE PLASTIC HOOK WILL BREAK. Pull the foot up at the elbow end and the tent peg will come up without damaging the plastic hook at the top of the peg.

Earth Time Line or Water Worlds in our Solar System Banner from the Life in the Universe Kit

All pipes labeled D, E, F, G, K, L, M, N, and P will be used for this size banner
Pipes 1L and 1N (pre-assemble 1L and 1N to L and N respectfully and treat them as L and N for remainder of instructions)
4 quick release clips
4 bungee balls
4 tent pegs (if used outside)

Set aside all unused parts, they will not be used with this banner.

If possible place your banner, if setting up outside, with the smallest profile with the wind and also on grass so you can use tent pegs to secure to the ground.

1. **Place pieces labeled "P" about 5 feet apart parallel on the ground with the open end of the elbow on the ends facing the ground.**
2. **Insert pieces labeled "F" and match the purple pipe end to the purple 4 way fitting.**
3. **Use parts "K" (left side) and "L" (right side) for the next step. Then add pipe "D" between "K" and "L" matching the gray ends. "K" and "L" have a "T" fitting glued to one end. Match the red side of the "T" fitting onto the red pipe end of "F". Now you have a crossbar that should look similar to this.**

4. **[Omit this step if setting up inside.] Use the 4 tent pegs and hammer them into the ground through the holes drilled into the 4 corners of the feet. The holes are drilled at a 30° angle toward the center to help support against wind when setup outdoors.**
5. **Now insert the 2 pipes labeled "E" matching the green pipe ends into the green "T" fittings.**
6. **Assemble the top crossbar by putting pipes labeled "M", "N" and "G" together matching all the gray ends together (M and N each have 2 yellow ropes butterfly at the elbow end). Make sure the eyebolts are aligned.**
7. **Set the crossbar on top of the 2 pipe ends colored blue with the elbows colored blue with "M" on the left side and "N" on the right.**
8. **The yellow rope need only be used if setup outside. Leave them tied up if presenting inside. Unravel the butterfly rope by releasing the VELCRO strap if setting up outside. Leave the**

VELCRO strap attached to the end of the rope. DO NOT UNTIE OR REMOVE THE ROPE. Place the looped end of the rope around the hook side of the tent peg.

To make it easier to loop around the hook, rotate the tent peg enough to get the rope around the hook. Rotate the tent peg back parallel to the feet so the rope won't slip off. Do this for all 4 sides.

9. **The frame is now ready for the banner and should look something like this.**

10. **Attach 4 quick release clips at the eyebolts numbered 1, 2, 3, and 4 for the Time Line or Water Worlds side of the banner. Make sure the narrow side of the clip is towards the eyebolt and the spring gate is towards the front like this. It makes it easier to attach the banner this way.**

11. **Attach the banner through the grommets across the top of the banner; photo above left.**
12. **This banner will use 4 bungee balls. Thread the bungee balls through the rest of the grommets and loop around the PVC pipe and then around the ball for a secure fit; photo above right. I**

added an extra grommet at the top two corners for added strength to hold the banner tight inside the frame. You are now ready for your presentation. Your banner should look like this.

Afterwards disassemble in reverse order. Make sure to remove the banner first before releasing the guy lines. This will help under windy conditions. DO NOT UNTIE THE KNOTS ON THE ROPES. Butterfly them back up using the VELCRO straps attached to the bottom of the rope. To help with separating the crossbars, lightly tap with a hammer from the bottom of the pipe near the joint. DO NOT USE THE HAMMER TO PULL THE TENT PEGS FROM THE FEET, THE PLASTIC HOOK WILL BREAK. Pull the foot up at the elbow end and the tent peg will come up without damaging the plastic hook at the top of the peg.

Our Magnetic Sun Banner from the Our Magnetic Sun Kit

All pipes labeled H, E, F, K, L, M, N, and P will be used for this size banner
Pipes 1L and 1N (pre-assemble 1L and 1N to L and N respectfully and treat them as L and N for remainder of instructions)
Pipe labeled C (only 1 is used for this banner),
4 quick release clips
12 bungee balls
4 tent pegs (if used outside)

Set aside all unused parts, they will not be used with this banner.

If possible place your banner, if setting up outside, with the smallest profile with the wind and also on grass so you can use tent pegs to secure to the ground.

1. **Place pieces labeled "P" about 5 feet apart parallel on the ground with the open end of the elbow on the ends facing the ground.**
2. **Insert pieces labeled "F" and match the purple pipe end to the purple 4 way fitting.**
3. **Use parts "K" (left side) and "L" (right side) for the next step. Then add pipe "C" between "K" and "L" matching the blue to end of "C" to the gray end of "K" then the black end of "C" to the gray end of "L". "K" and "L" have a "T" fitting glued to one end. Match the red side of the "T" fitting onto the red pipe end of "F". Now you have a crossbar that should look similar to this.**

4. **[Omit this step if setting up inside.] Use the 4 tent pegs and hammer them into the ground through the holes drilled into the 4 corners of the feet. The holes are drilled at a 30° angle toward the center to help support against wind when setup outdoors.**
5. **Now insert the 2 pipes labeled "E" matching the green pipe ends into the green "T" fittings.**
6. **Assemble the top crossbar by putting pipes labeled "M", "N" and "H" together matching all gray ends (M and N each have 2 yellow ropes butterfly at the elbow end). Make sure the eyebolts are aligned.**
7. **Set the crossbar on top of the 2 pipe ends colored blue with the elbows colored blue with "M" on the left side and "N" on the right.**

8. **The yellow rope need only be used if setup outside. Leave them tied up if presenting inside. Unravel the butterfly rope by releasing the VELCRO strap if setting up outside. Leave the VELCRO strap attached to the end of the rope. DO NOT UNTIE OR REMOVE THE ROPE. Place the looped end of the rope around the hook side of the tent peg.**

To make it easier to loop around the hook, rotate the tent peg enough to get the rope around the hook. Rotate the tent peg back parallel to the feet so the rope won't slip off. Do this for all 4 sides.

9. **The frame is now ready for the banner and should look something like this.**

10. **Attach 4 quick release clips at the eyebolts numbered 1, 5, 6, and 3 for Magnetic Sun banner. Make sure the narrow side of the clip is towards the eyebolt and the spring gate is towards the front like this. It makes it easier to attach the banner this way.**

11. **Attach the banner through the grommets across the top of the banner; photo above left.**

12. **This banner will use 12 bungee balls. Thread the bungee balls through the rest of the grommets and loop around the PVC pipe and then around the ball for a secure fit. Thread 2 bungee balls in the bottom 2 corners then secure to the vertical pipe and horizontal pipe; photo above right. I added an extra grommet at the top two corners for added strength to hold the banner tight inside the frame. You are now ready for your presentation. Your banner should look like this.**

Afterwards disassemble in reverse order. Make sure to remove the banner first before releasing the guy lines. This will help under windy conditions. DO NOT UNTIE THE KNOTS ON THE ROPES. Butterfly them back up using the VELCRO straps attached to the bottom of the rope. To help with separating the crossbars, lightly tap with a hammer from the bottom of the pipe near the joint. DO NOT USE THE HAMMER TO PULL THE TENT PEGS FROM THE FEET, THE PLASTIC HOOK WILL BREAK. Pull the foot up at the elbow end and the tent peg will come up without damaging the plastic hook at the top of the peg.