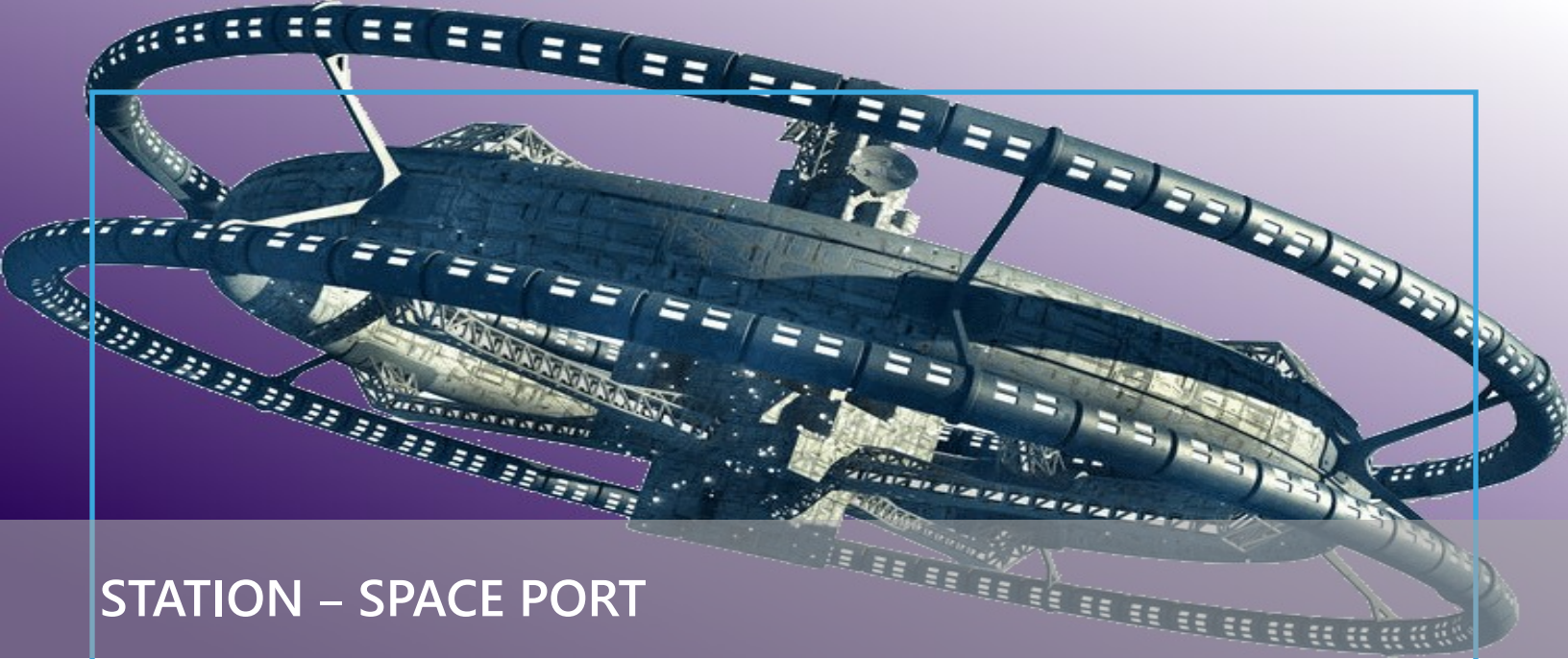


MATH ADVENTURE KIT

Space Base
Alpha

Script &
Station Details
for the
Space Port



STATION – SPACE PORT

CHARACTERS

Receptionist – Greets teams outside; controls traffic flow

Dock Workers – Guide teams through the challenge

Departure – Makes sure exiting teams have everything they need

BACK STORY

The automatic docking system that this star base normally uses is offline. The docking arms of both the base and the ships that dock here have no windows, and are effectively blind. Meanwhile, a cargo ship is approaching, and we need to find a way to connect to it manually.

Two members of each team will play the two docking arms. They will be blindfolded, to simulate the disabled state. The other two members of each team will be able to guide them, but only remotely. They are viewing from windows on the other side of the docking bay.

The blindfolded team members will be able to move around (forward, backward, or side-to-side), turn, and raise or lower the outstretched arms. The goal is for the sighted team members to verbally guide the blindfolded members toward each other, so that eventually they can clasp hands and exchange cargo. Colliding in any other way, or into anything else, represents a crash, and potentially the loss of the valuable cargo being delivered.

The blindfolded members should be treated as moving sluggishly. They can't rapidly adjust to frequent fine-tuning commands. So plan each pair of instructions (one for each blindfolded member) carefully, convey simple instructions, and then wait for them both to execute them before repeating.

LOCATION

A wide open space. Outdoors even, if the weather permits. Avoid places with tripping hazards.

Multiple teams can play concurrently near each other, but should avoid colliding with each other.

The receptionist and departure helper stay in the hallway leading to the open space.

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SCRIPT

Receptionist: Hello, welcome! Are you here to meet the arriving cargo ship? What's your team name?

Team: (Name)

Receptionist: *(Confirm team has solved the correct puzzle for this station, and has a reasonable answer)*
You'll need to talk to the dock worker. There's apparently something wrong with the cargo ship docking.

Dock Worker: Alright Greenhorns, about time you got here! We've got a bit of a situation.
The automatic docking system is offline. And we have a cargo ship with very important supplies arriving. I can't guide them in by myself. I need your help. Do you have any ideas?

Team: *(share their puzzle answer. Along the lines of "remote control" or "blind operator").*

Dock Worker: Interesting! If we work together, we could make that work!
I'd need two of you to drive the two docking arms. One from our base, and the other from the arriving ship. Those arms unfortunately have no windows, so you'll be driving blind.
The other two of you can look out some windows down the way, to watch the two docking arms in action. You can give your friends remote commands, to help them find each other.
Ready to give it a go? Who's going to drive the blind docking arms?

Team: *(divide themselves up. 2 to be blindfolded. 2 to give directions).*

Dock Worker: We better make sure these arms work correctly. Let's do a quick practice.
(blindfolded two team members, and move them each a few paces away from anything else)
Ok each of you, take 1 step forward. Good.
Now turn to the right. Good.
Take one side step to the left. Good.
Finally, pretend to shake hands. That's your eventual goal.
Looks like the driving part works fine. Let's get you out into open space!

For sake of example, in the remainder of this script, we'll say that the two blindfolded team members are named Bob and Carla. Bob is on the base, and Carla is on the cargo ship. Their sighted friends are named Yolanda and Zack.

The dock worker should quietly move Bob and Carla out into the open space. Well apart from one another, and turned to face randomly. Also, give Carla a bag of goods. This is their delivery to the base.

If you like, you can also move Yolanda and Zack to a new location, to take away the reference point the blindfolded listeners would have used, of where their friends' voices were coming from.

Dock Worker: *(quietly to Yolanda:)* Think about what step Carla should do first?
(and to Zack:) While you decide what Bob should do.
Ready? Go ahead and tell them their first steps.

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SCRIPT (CONTINUED)

Yolanda:	Carla, turn to your right.
Zack:	Bob, turn all the way around.
Dock Worker:	You've got it. Keep going. Make sure they keep their hands outstretched.
Yolanda:	Carla, take 5 steps forward.
Zack:	Bob, take 2 steps forward.
Yolanda:	Carla, turn a little more to your right.
Zack:	Bob, side step a little to your right, and lift your hands higher.
Bob & Carla:	<i>(clasp hands!)</i>
Dock Worker:	Docking clamps engaged! Carla, you can hand your cargo supply over to Bob.
Carla:	<i>(put the bag she's been carrying into Bob's hand)</i>
Dock Worker:	Transfer complete! Docking clamp released. Disengage! Our work here is done! <i>(bring Yolanda and Zack over to Bob and Carla. Help them take off their blindfolds)</i> Now, let's see what the cargo ship delivered.
Bob:	<i>(opens bag, and finds a roll of toilet paper)</i>
Dock Worker:	Oh thank goodness. Soft, luxurious toilet paper, all the way from Earth! This is the best delivery we've had all month! <i>(take toilet paper from Bob)</i> Anything else?
Bob:	<i>(at the bottom of the bag, finds some candy)</i>
Dock Worker:	Oh, lucky you. That's a very popular food here on the star base. I think you all have earned it. Go ahead and keep it! <i>(leads team back to hallway, and the departure area)</i>
Departure:	Nice work team. I was worried about that cargo shipment. Supplies have been running low. By the way, a message came from the Commander while you were out there. They're preparing a landing to collect minerals. Have you done any mineral mining yet?
Team:	<i>answers yes if their first puzzle was the Mineral Mine. Otherwise, they answer no.</i>
Departure:	<i>(If no...)</i> Well then, you'll need this packet. <i>(hands them their next puzzle).</i> Good luck! <i>(If yes, they've already done the Mineral Mine...)</i> Then you're done! Go find the Base Commander!



STATION – SPACE PORT

ROOM RESET

Dock Worker: *Refill the bag with candy at the bottom, and a roll of toilet paper on top. Then re-seal it.*

COMMAND TIPS

- Make sure the blind team members stay quiet. If they call out “*what should I do?*”, that will give away their location to the other blind player.
- Encourage the sighted team members to keep their commands simple. Only one action at a time: move or turn, and how much.
- For younger teams, consider having Yolanda and Zack take turns, giving instructions to either Carla or Bob.
- For an extra challenge for older teams, separate Yolanda and Zack, so they can’t coordinate their planning. They must each decide what instruction they want to give, and then they give them one right after the other. Bob and Carla then follow them simultaneously. This is more likely to lead to comical outcomes, such as passing right by each other.
- If the station has played out quickly, and no other teams are waiting for their turn, you can keep playing after the cargo exchange. Identify a target in the play area that represents the ship’s exit, and steer Carla toward it. Meanwhile, the dock worker can go stand off to the side, and Bob should be directed to bring his cargo bag to the dock worker.
- If you have extra dock workers, assign one to Yolanda, and one to Zack, while a third one keeps an eye on blind Bob and Carla.

INCOMING PUZZLE

Before arriving at this station, each team will solve a math puzzle that is something like a jigsaw puzzle, where all the corners need to match.

The instructions tell them “A ship is approaching the base, trying to dock. Your team needs to bring them in for a smooth landing.”

Their answer will be a two word phrase, in the spirit of REMOTE CONTROL, BLIND DRIVING, or similar.

DEPARTURE

As teams leave, they should have 2 things:

- The candy from the cargo
 - The outgoing puzzle – **Mineral Mine**
- ⊗ They should NOT take the blindfolds with them, unless the plan is not to share them between children.



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SUPPLY LIST

- Blindfolds. Two per concurrent team, with spares just in case.
- An opaque bag, or lunch box, large enough for a role of toilet paper, which can be closed to not reveal the contents.
- A bulk supply of candy. We recommend Zots.
- One role of toilet paper per parallel station.
- Outgoing puzzle – **Mineral Mine**
- Hallway signs saying – **Space Port**
- Masking tape – for signs
- Thick black marker – for drawing arrows on signs
- Team list – listing each team, and their level expected level
- Pencil – to check teams off as they arrive
- Water – actors talk a lot, and get thirsty



STATION – SPACE PORT

STATION SETUP

- Take a picture with your cell phone of the open space, if you'll need to move anything. Also take a picture of the hallways where the receptionist will go. These will help you return any moved furniture back where you found it.
- Find a wide open space, ideally with no tripping hazards.
- If two or more teams will be playing concurrently, partition the space into separate fields.
- Keep a supply of candy out of site.
- Setup the cargo bag with a candy for each child at the bottom, and the roll of toilet paper on top. Seal the bag so the children don't realize what it contains. Reset this for each team.
- Place a reception table in the hall, at least 10 feet from the classroom door.
- Place the supply of outgoing puzzles on the table, along with the team list.
- Hang up signs
 - Tape one of the hallway signs to the front of the reception table, or on a wall above it, so arriving teams know they're in the right place.
 - Tape the remaining signs along the route from the solving area to this station. Use a black marker to add arrows for direction.
 - The first sign should be inside the solving area, at the exit, where teams inside can see it.
 - Where logical, group with other station signs for easier visibility.
 - There's no need to mark the classrooms themselves. The whole purpose of the signs is to help teams find their way from the solving area to your reception table.



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LAYOUT TIPS

Make sure the reception table is the first thing incoming teams will see.

Leave a sizable buffer between the reception table and the entrance/exit to the open space . At least 10 feet, but farther is better. This way, teams waiting their turn won't crowd the actors, who can then talk to one team at a time before entering the station area. Also, this means that teams that return giggling won't immediately run into the next team in line.

Try to block the view of the station activity from teams waiting in line, so as not to spoil any surprises.

If you have room, and enough staff for separate receptionist and departure helpers, give them each their own desk, and create a loop route for teams to go through. The receptionist table gets the tame list. The departure table is closer to the classroom, and gets the outgoing puzzles. However, if you are understaffed, the receptionist and departure assistant jobs can be merged into one person at one desk.

TEAM MANAGEMENT AND PARALLEL ROOMS

In order for the overall event to flow smoothly, you will want each team to complete their experience at this station in 4-5 minutes. This activity can play out quickly. The longest part is likely going to be setting up the storyline, and explaining what each team member needs to do.

If you don't have a lot of space available, such that multiple teams can play at once, then that might be your biggest bottleneck. If that's the case, but if you still have extra actors, you can have one set of actors prepare one incoming team, while another set of actors plays out the exercise with the previous team.

We have seen kids have a lot of fun with this, and clamor afterwards to swap roles. If you have enough space, and no teams waiting in line, feel free to indulge them.

It's important not to let too many teams wait in line in the hallway. If you ever get 2 or more teams waiting, and can't run parallel fields, you can speed up this station by starting the kids closer together. It might also be that if you have the sighted kids take turns giving instructions, it goes quicker than simultaneous instructions, because there will be fewer mistakes, with blind drivers passing each other by.

FINAL TIPS

You are the guardians of this room. Make sure nothing wanders off, any litter or messes are cleaned up, and everything gets put back where it was!

Do not shut down this station until the event lead or the solving station lead confirm that no more teams are en route. If you have parallel rooms, and are reasonably sure you've seen all the teams, it is ok to shut down all but one room, until you hear final confirmation.



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ANECDOTES FROM PAST EVENTS

Over the years, we've seen a number of things go sideways. If you have some spare time while you wait for the first team to arrive, read on. You never know when one will happen to your station.

Unsolved puzzles

Some teams show up at the station with a garbled answer. If they're close, feel free to help them find the real answer. Alternatively, point out the QR code in the bottom corner of the answer page -- it links to a web page that can show coaches how to get the correct answer. More rarely, a team that doesn't understand how the adventure works will show up without even trying to solve the puzzle. They likely think they were supposed to solve it together with you. These teams should be sent back to the cafeteria to work on the puzzle -- that's half the adventure!

Wrong station

Signs from the cafeteria to the stations may not be as clear as you thought. Eager teams will run to the first station that looks like a candidate. So double check that their answer page matches your station. If they should be elsewhere, help them find it. Then check your signs!!

One more team

By the end time of the adventure, your actors are probably exhausted, and eager to pack up. But all too often, there's one more team you didn't account for. If they show up after the station has closed down, all their math work will seem in vain. So double check before you close up -- send a runner to the cafeteria to confirm.

The mile-long line

Beware long queues of teams waiting to experience your station. Not only is waiting in line the least fun part of the evening, but antsy kids can have a hard time waiting patiently. Be creative to clear out queues as soon as they occur. Take two teams through a station at a time. Slim down the actor's lines. Give hints. Anything.

Teenagers

Teenagers are a fantastic second source of actors, volunteers, and even coaches. But beware leaving groups of them unsupervised in a classroom. Groups of teens with spare time between adventures can get unfortunate ideas for pranking their old elementary teachers and younger siblings.

Scared little ones

The youngest adventurers can be slow to catch on to the spirit of your station. If your station calls for bravery, they may be terrified. If it calls for comedy, the jokes may go completely over their head. Feel free to tone down the drama, talk through the jokes, or just feed them lines.

Tag-along siblings

Math Adventures are great family and community events. In order for parents to be able to coach and act, it's nice to also let them bring any pre-school age little siblings along for the ride. Those kids won't be interested in the math puzzles, but if you can loop them into the theatrics, do so. And if nothing else, make sure they get any token giveaways that their older siblings get.

Hidden supplies

Make sure everyone working a station knows where the stash of extra supplies are. This is all the more important when a station is split across two or more parallel rooms. Sometimes one actor thinks the supplies are all used up, when in fact there's a second stash in another box. Review all supplies at the start, including how much to give to each team that comes through, and how many total teams are expected.

No-show actors

If your station is really short-handed, you can go to the cafeteria, and draft a spare coach into acting service!

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