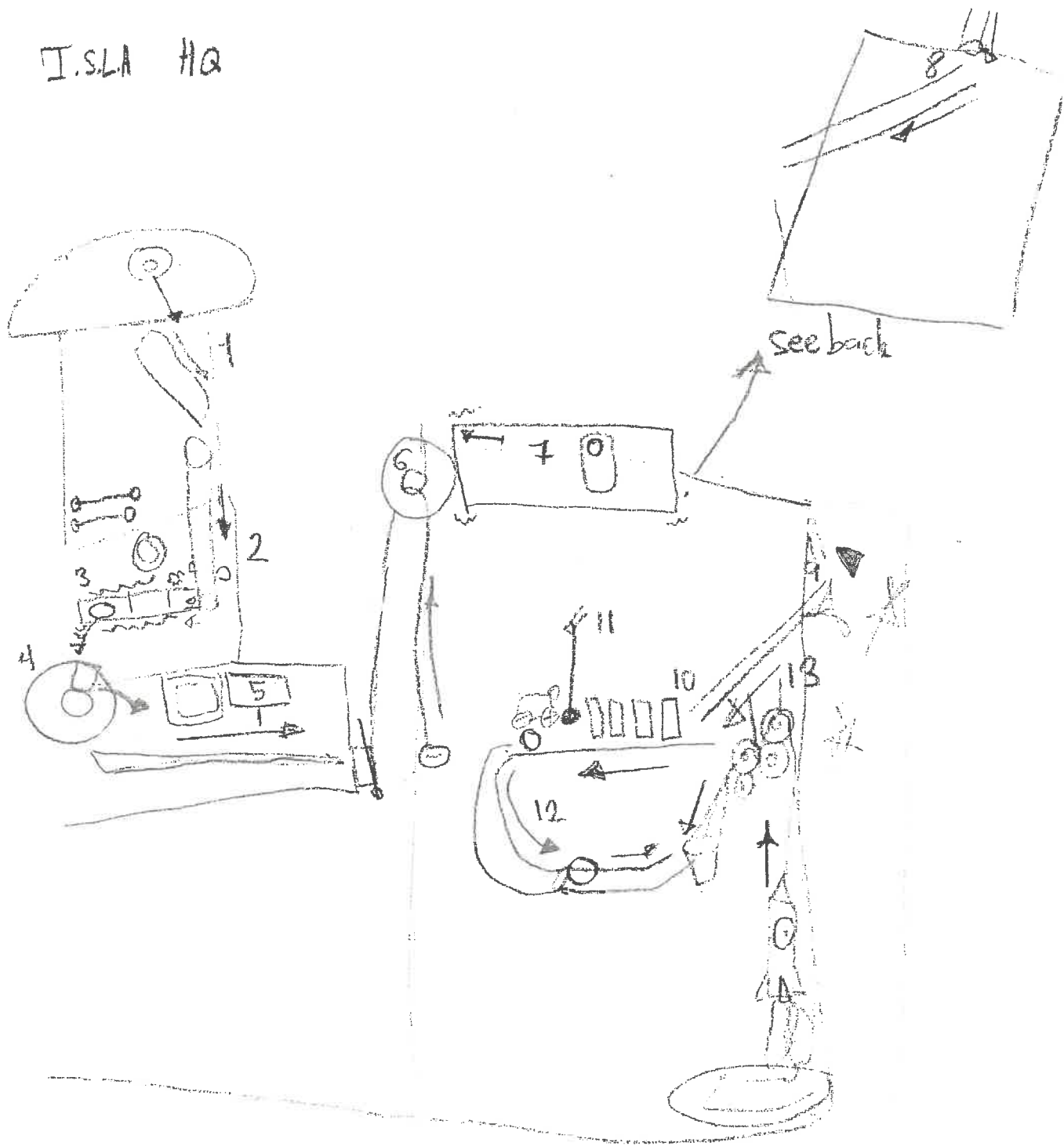
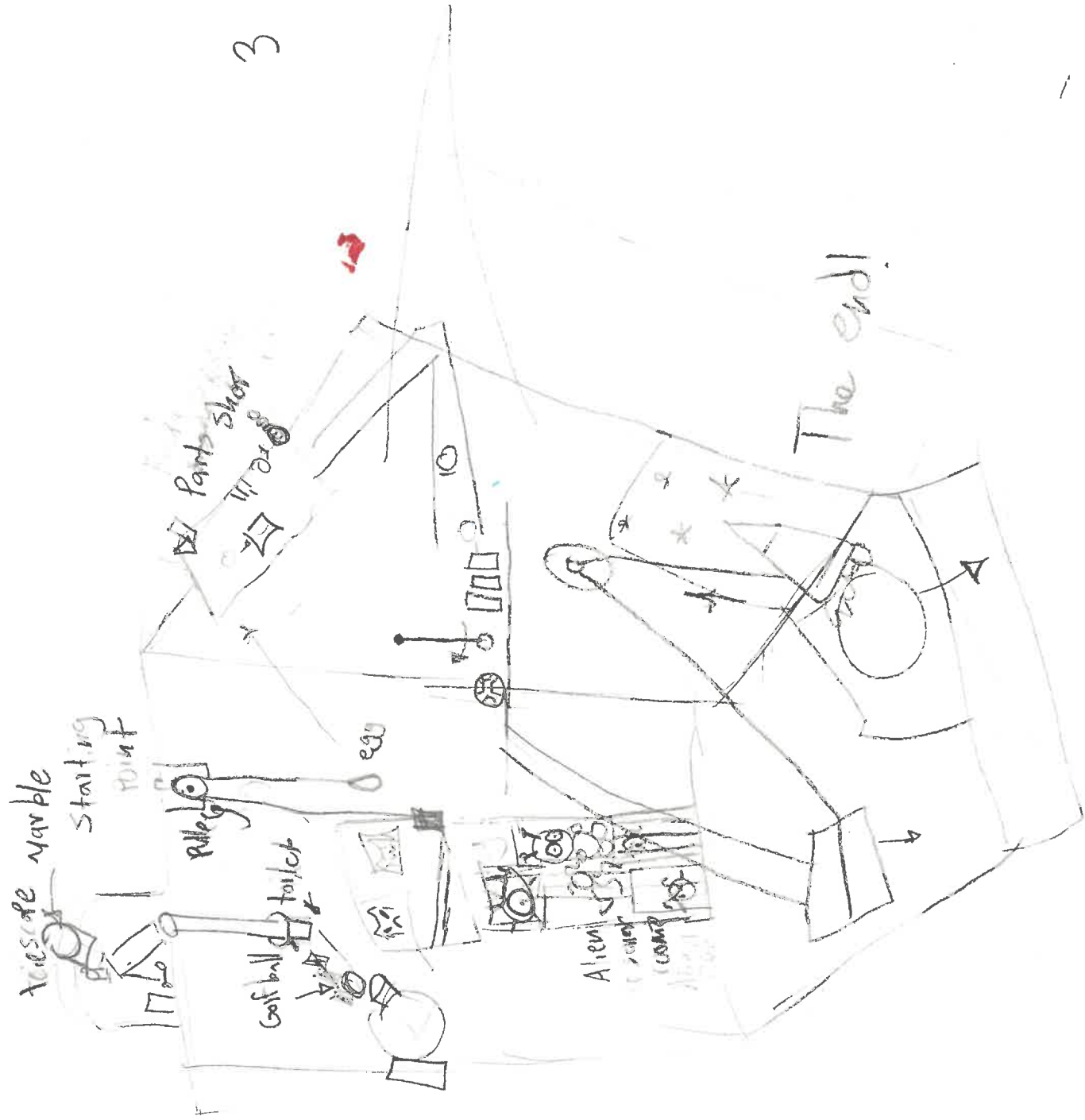


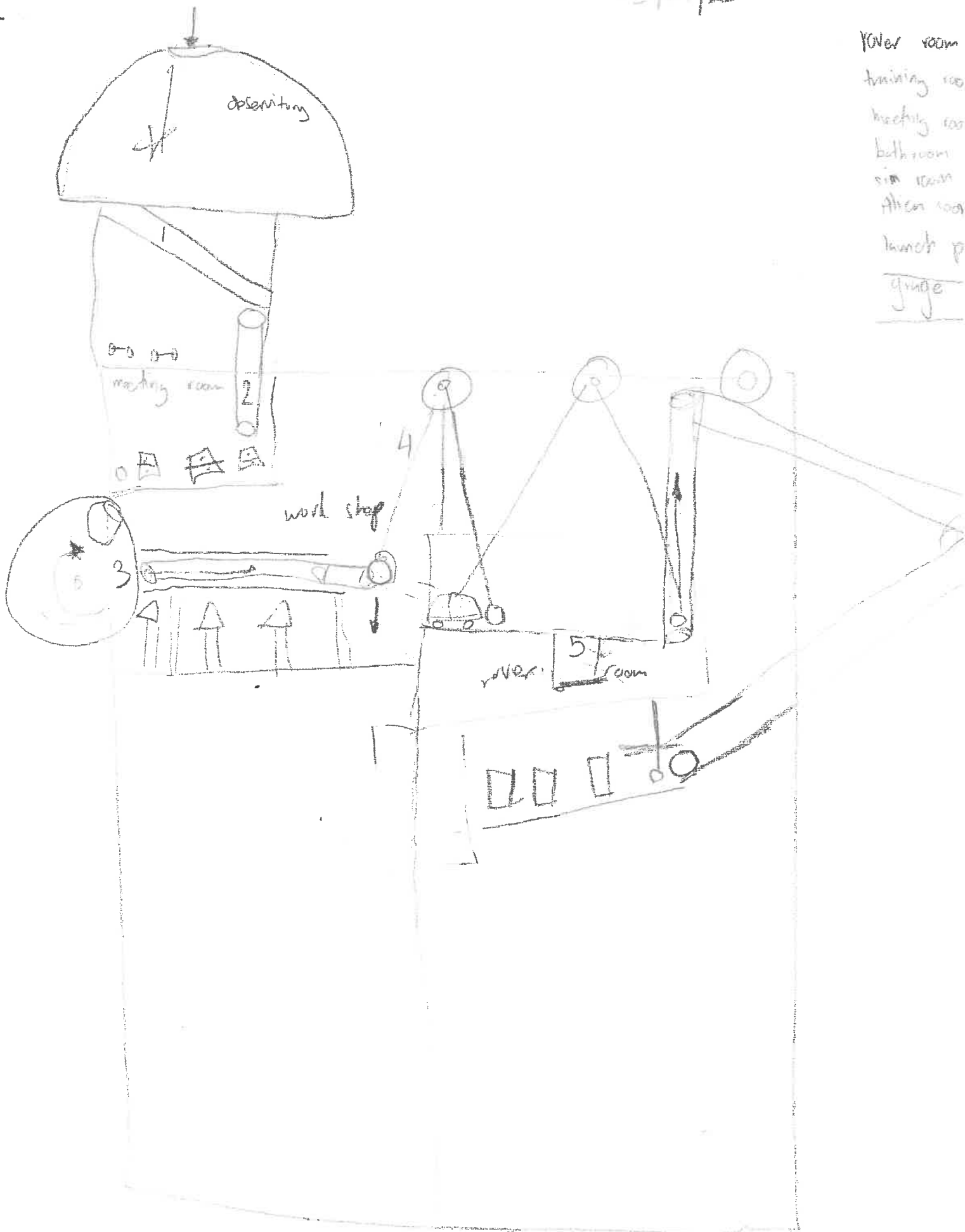
I.S.L.A HQ



3

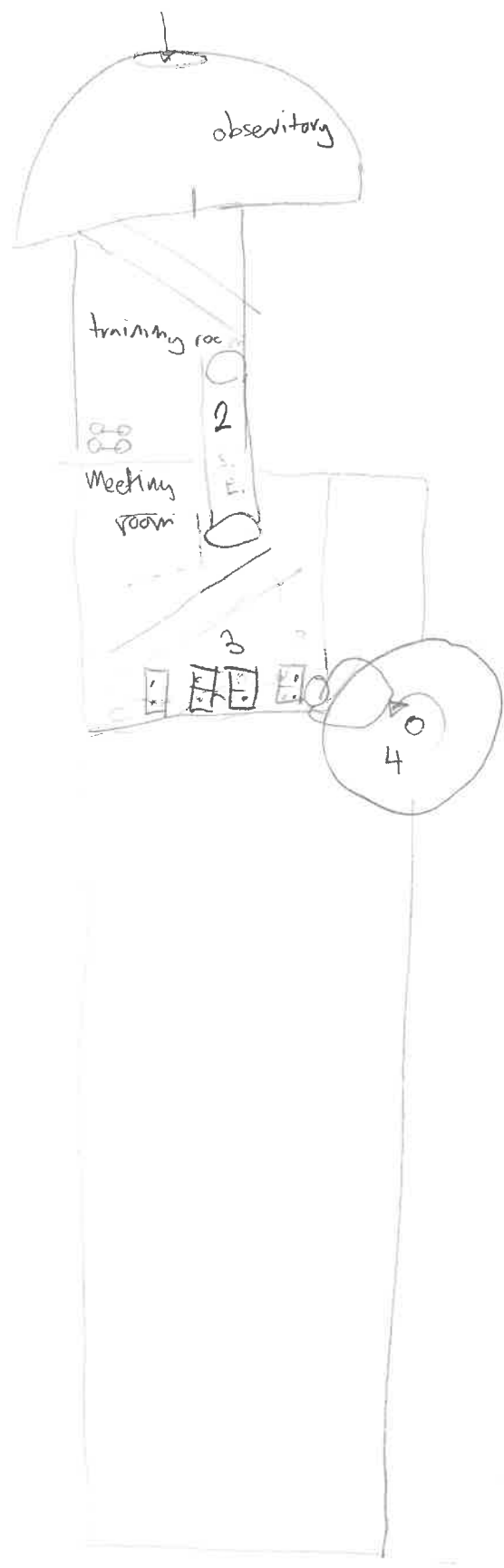


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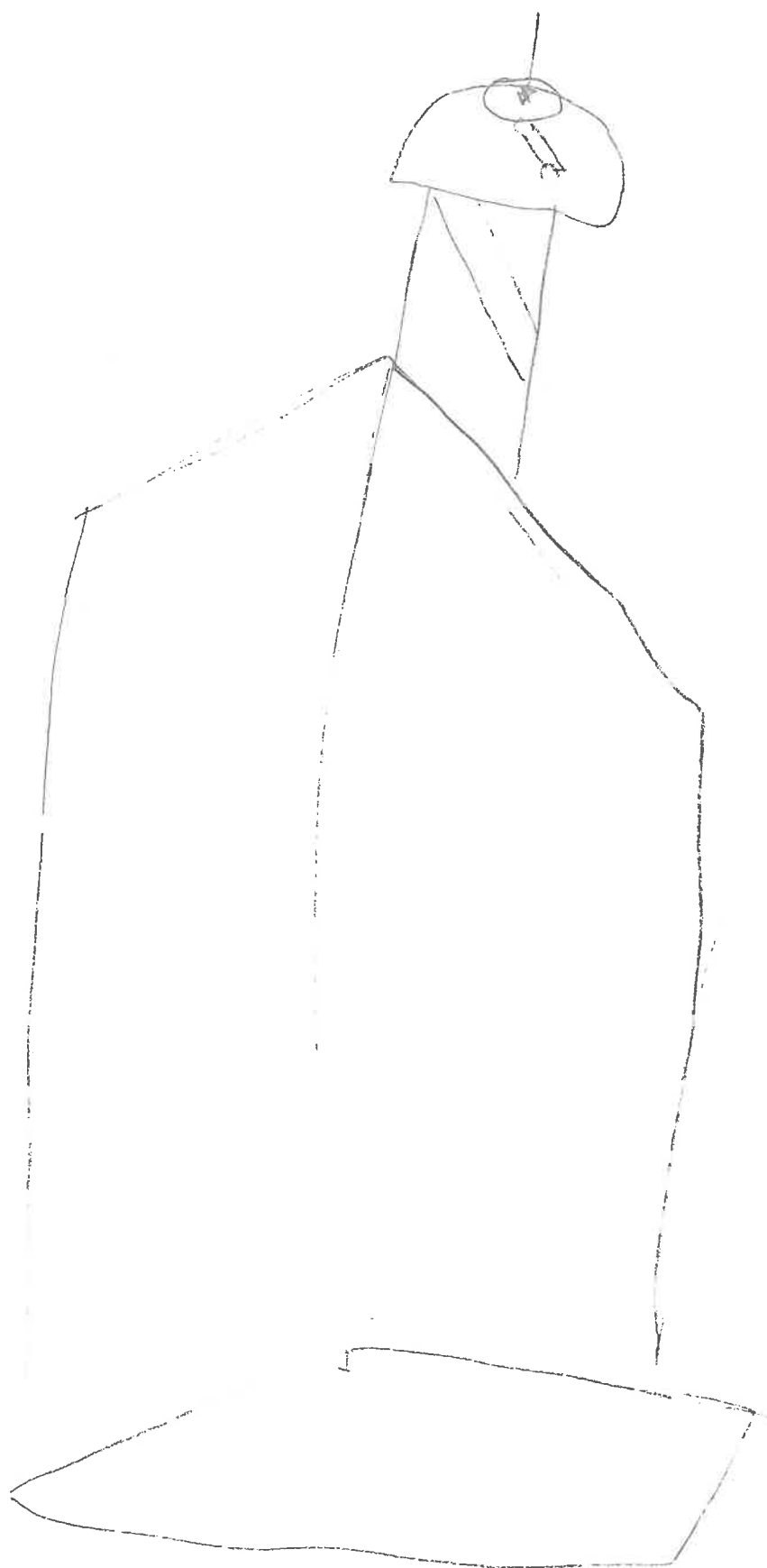


- Yover room
- training room
- meeting room
- bathroom
- sin room
- Attica room
- lunch p
- gauge

1



ISLA HQ 2.0



## Team Journal

Date	Team members present	Summary	To Do/Action
02/8	Myles Katelyn Emma	-First meeting introduction. -Talked about the names -Talked about the rules and expectations and being kind.	-Bring materials for next meeting -Come up with names
2/9	Myles Katelyn Emma	-Picked out the name -Created design -Started story	
2/25	Myles Katelyn Emma	Started on the base and painted Made a mini rover Attempted to make a rocket Tried to cut wood	Myles bring his stuff
3/1	Myles Katelyn Emma	Review journal Look at schedule and deadline Start creating!	Bring toothpicks, more ramps, TAPE, and pool noodles. Emma figures out a rocket. Myles figures out the pinwheel and Katelyn secure ramps more.
3/3	Myles Katelyn	We met during quiet time at school to end up adding more glue to our first room and cutting a ramp out of pool noodle because we couldn't figure out how to cut the cardboard.	
3/4	Myles Katelyn	We decorated the training room and attached the observatory to the training room and we attached the training room to the base and started on the first step. Made new design.	Katelyn decorate Meeting room Myles decorate bathroom
3/10	Myles Katelyn Emma	We remade the bathroom, attached toilet and sink and attached it to base thought of ways to attach pinwheel and made new pinwheel attached meeting room to base talked	

		about what Myles and Emma could do on next day.	
3/11	Myles Emma	We attached the pinwheel, created a mechanism for the pulley to sit on and spray painted the walls for the alien room. Also Myles got injured with a glue gun on his finger.	Attach the body shop, reattach the cup to pinwheel and make the alien room look good. Emma brings aliens.
3/18	Myles Emma Katelyn	Got lots of the Rube done. Made the ISLA logo and finished the pendulum. Started the presentation and had the skit prepared.	Read books handed by Sra. Maldonado
3/20	Myles Emma Katelyn	Labeled steps and decorated, Myles kept working on the final pulley.	Keep decorating
3/28	Myles Emma Katelyn	Re-did the final pulley. Made a material list and started organizing for the competition.	Bring costumes for the next meeting.
4/12/12	Myles Emma Katelyn	Reviewed result and thought about how to make better	Think about more recycled materials





## Steps

Step 1	Using gravity, the marble dropped
Step 2	The force of gravity connects to space toilet
Step 3	Using the vibration force of tube it forces the golf ball to the wheel and axle (pinwheel)
Step 4	In the pinwheel the weight of the ball forces the wheel to rotate.
Step 5	The ball continues into the meeting room and goes down into the inclined plane.
Step 6	The force of the golf ball dislodges the pulley
Step 7	When the pulley is moving, it forces the egg to vibrate and dislodge the 3rd marble.
Step 8	The 3rd marble continues in the back and falls into the inclined plane called ramp world.
Step 9	Ramp World is an inclined plane changing from potential to kinetic energy to move the dominos.
Step 10	Potential energy changes to kinetic to move the pendulum. domino hits
Step 11	Using force the Pendulum moves the marble
Step 12	Marble falls in tube goes down and hits a golf ball heavy enough to engage pulley
Step 13	And rocket launches

## **STE(A)M**

We are gonna talk about how we used the **STE(A)M** process in the journey of creating our machine. First letter in **STE(A)M** is S and it stands for science: We used science by learning about kinetic and potential energy and how potential energy is needed to get kinetic energy. We learned about force and motion and how different mass and gravity can affect the triggering of the steps, finally we started learning a little about variables. The next letter is T and it stands for technology/tools. Without things like the hot glue gun, duct tape, the box cutter and the saw we wouldn't have been able to make our

machine. Then the next letter is E and it stands for engineering. We used the engineering design process in making our build, follow ask, imagine, plan, etc. We had to put on our thinking hats and try to solve the many difficulties we encountered. Then its A, although A isn't officially a letter in the **STEM** process we added it to mean art. For us a big thing was being creative and able to make our machine presentable. We tried many different types of decorating like paint, paper and markers. We used different recycled materials to create objects. Finally it is M and M means Math. We used math in building the machine. We had to make many measurements following Sra. Maldonado's favorite quote "Measure twice, cut once" we also used different angles of inclined planes to get different speeds in the final outcome.

Machine Front





**Machine Back**



## **Bibliography**

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Walker, Sally M., et al. *Palancas*. Ediciones Lerner, 2006.

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## Reflexion:

We started our process with a simple design, the plan was to show the inside of what we thought a space station would be like, we thought of rooms and exciting complicated steps that would get us ahead. When we had a plan we painted our base and got started, unfortunately though we soon learned that our plan was flawed. You see we weren't using the space on our base efficiently and so ten steps would be near impossible to achieve. That day was difficult because it was just Katelyn and Myles and to make matters worse they lost the original design, so now it was back to square one.. But of course it got better, the thing is that you can't always follow the engineering process in order, our group had made a plan, created, improved, planned, etc. It wasn't in order but it still followed those principles. So after this fiasco we asked ourselves: What is our idea and how can we make it come to life? We imagined the steps and the final project and from there built. During this period we were constantly improving the design, the steps, everything. We built for weeks always making sure to follow our plan but leave room for improvement. As we write this we still consider how to make this machine better and how to give it more life. Creativity isn't officially in the design process but an important step, it goes with improving, we finished by doing this and making it pop!

The biggest challenge was finding advanced components and making it happen.

Another challenge was being open to changing the design. We wanted the original to work. It was hard to think we needed to scrap the whole entire thing. The final step was also the hardest step. Myles tried many different things and it was not working. As a perfectionist, Emma's biggest challenge was to let things go and realize not everything had to be perfect. It was good to work as a team because

when Katelyn mentioned to move on, Emma did great in continuing and let it go even when it wasn't perfect.

Working as a team was super fun. It was really rewarding to see it work after several runs. We worked as a team and had fun joking around. In conclusion we had a great time making the machine, we think we did a great job and we're so excited for the competition!

## Pictures







# List of items

item	Cost
$\frac{1}{3}$ of Plywood	\$ 3.00
$\frac{1}{2}$ small hot Glue gun sticks	\$ 5.00

Recycled items

95%

of the tube is recycled!

