FIRST LEGO LEAGUE CHALLENGE

Mission Brainstorming Worksheets

FIRST LEGO LEAGUE TUTORIALS

TEAM NAME:
TEAM NUMBER:

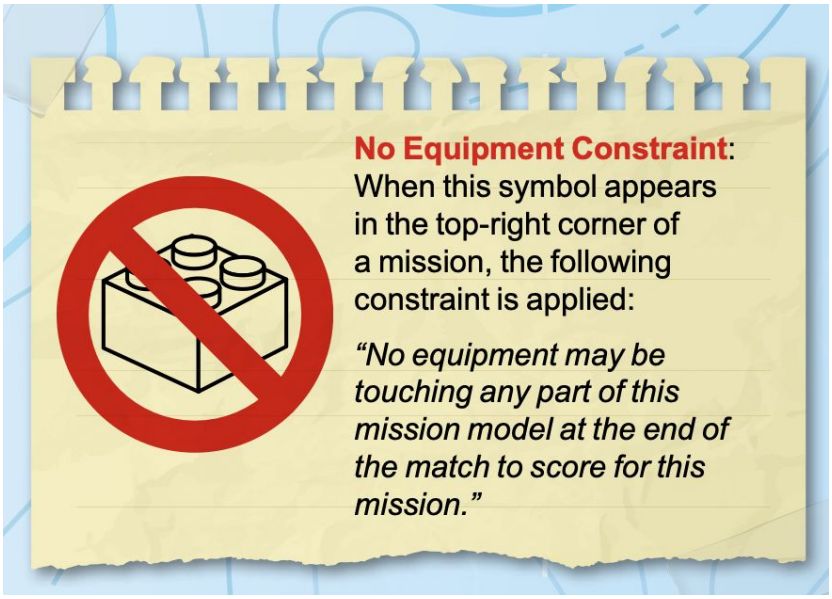
Updated: August 2024

Instructions

This document is *NOT* a substitute for reading the Robot Game Rulebook (RGR). The main purpose of this document is to brainstorm mechanisms and methods for solving missions. We assume that every student will start by reading all the rules.

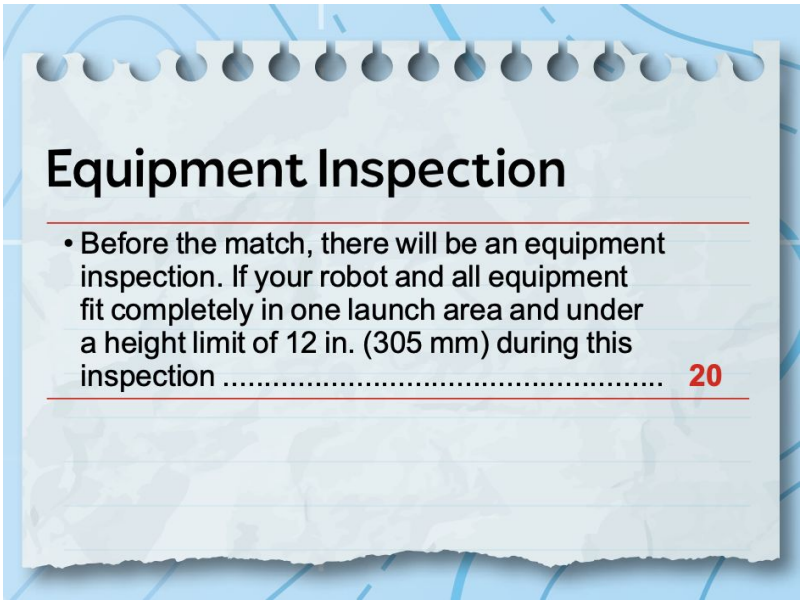
Instructions for students:

1. **Read the rules carefully - https://www.firstlegoleague.org/season#resources**
2. **Check for any updates - https://www.firstlegoleague.org/season#resources**
3. **Brainstorm ideas.** Think about what you might have to build or program to solve this mission. Do you need to push/pull/pick up/drop off? What type of mechanism would be needed? Does it need to reach high or low?

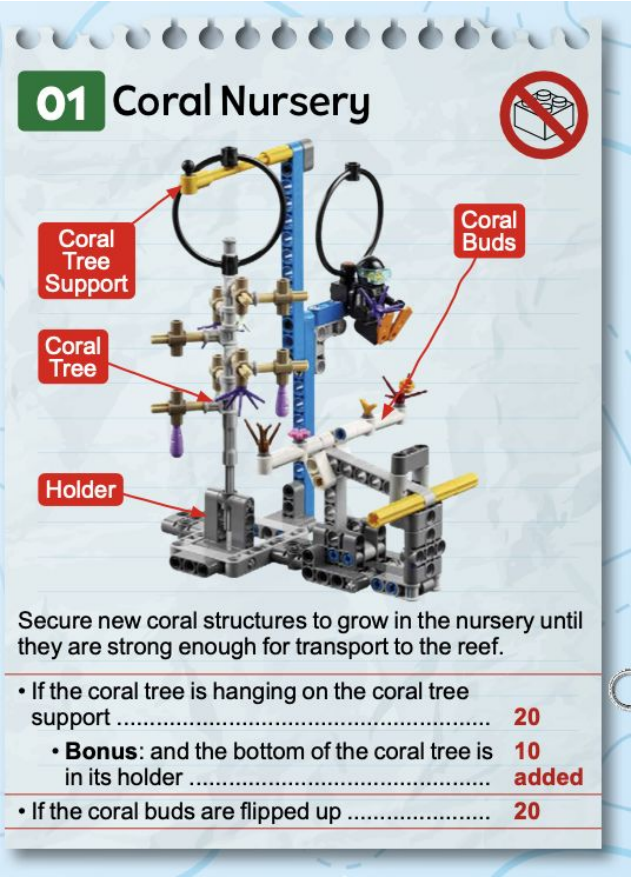


- **Equipment**: Everything teams bring to the match. (See **Rules, Before the Match** for more details.)

Credit: *FIRST LEGO League* Robot Game Rulebook.

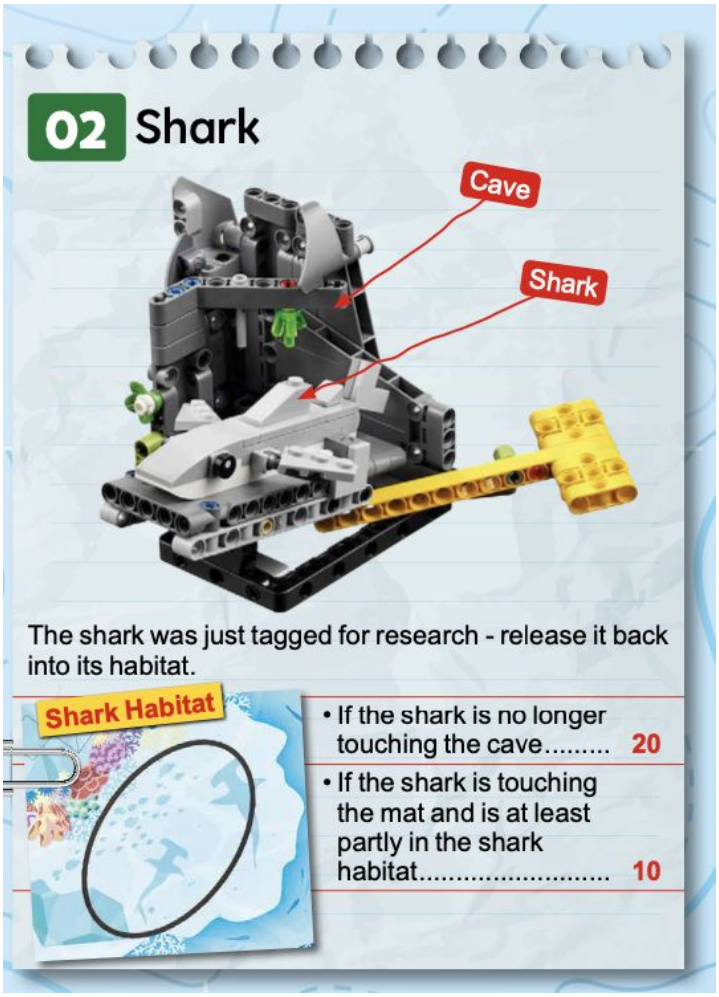


How can we make sure that everything fits in one launch area?



What are some things you notice about this model?

How can we solve this mission?



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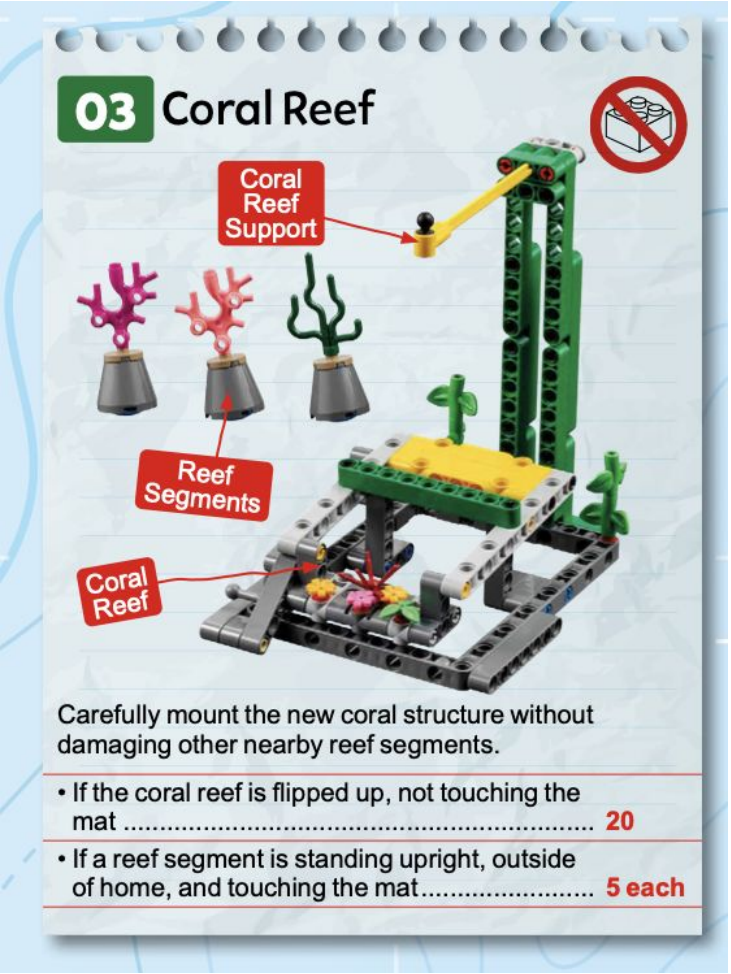

What are some things you notice about this model?

How can we solve this mission?

04 Scuba Diver

Help the scuba diver transport new coral from the nursery to the reef.

- If the scuba diver is no longer touching the coral nursery 20
- If the scuba diver is hanging on the coral reef support 20

The "coral nursery" includes any part of the Mission 1 mission model.

What are some things you notice about this model?

How can we solve this mission?

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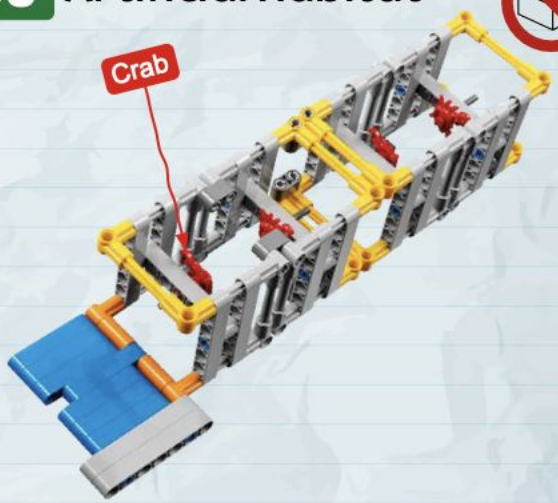
08 Artificial Habitat



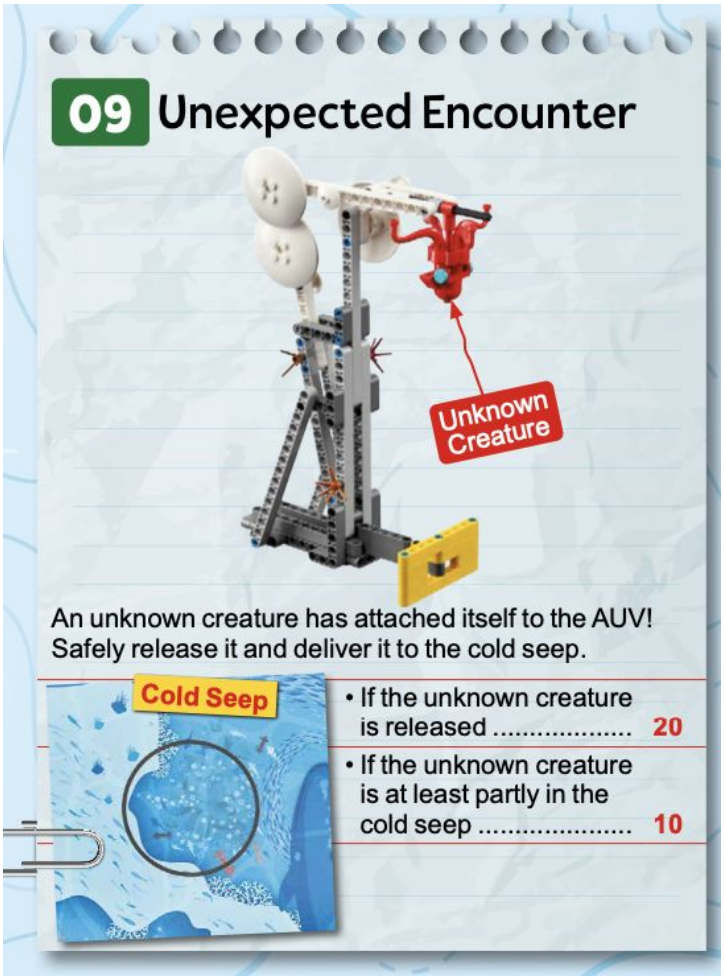
Rearrange the artificial habitat stacks to create safe homes for the crabs and other sea creatures in this area.

• If an artificial habitat stack segment is completely flat and upright	10 each

There are four segments of the artificial habitat stack, each defined by its yellow base. A segment is considered upright when the crab is above its yellow base.

What are some things you notice about this model?

How can we solve this mission?



What are some things you notice about this model?

How can we solve this mission?

10 Send over the Submersible

Some waters are too difficult to reach with larger ships. Send the submersible to explore the opposing field's waters.

- If your team's yellow flag is down 30
- If the submersible is clearly closer to the opposing field 10

Teams may not block the opposing team.
It is not possible to earn the bonus in remote competitions or if there is no opposing team.

What are some things you notice about this model?

How can we solve this mission?

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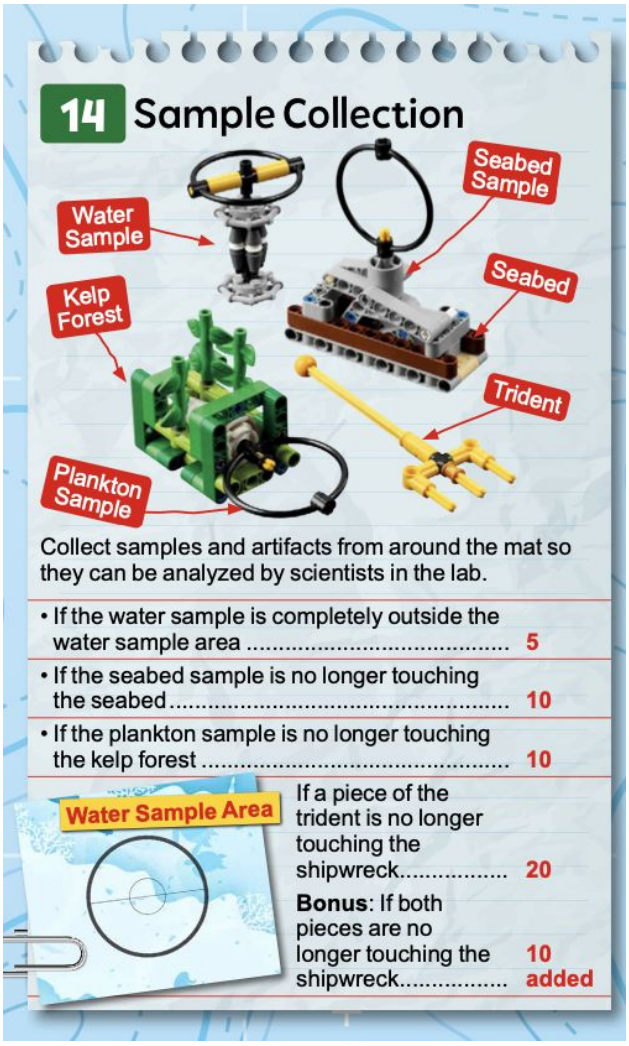
13 Change Shipping Lanes

Adjust the cargo ship's route to safely avoid whale migration routes by moving to another shipping lane.

- If the ship is in the new shipping lane, touching the mat..... 20

What are some things you notice about this model?

How can we solve this mission?



What are some things you notice about these models?

How can we solve this mission?

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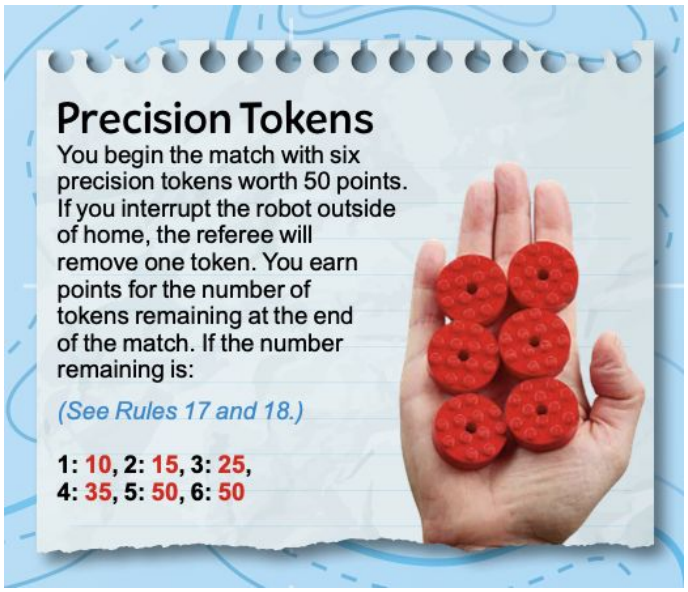

How do we keep our free points?