

Cloverbuddies

A 4-H exploration activity series
for Cloverbud members



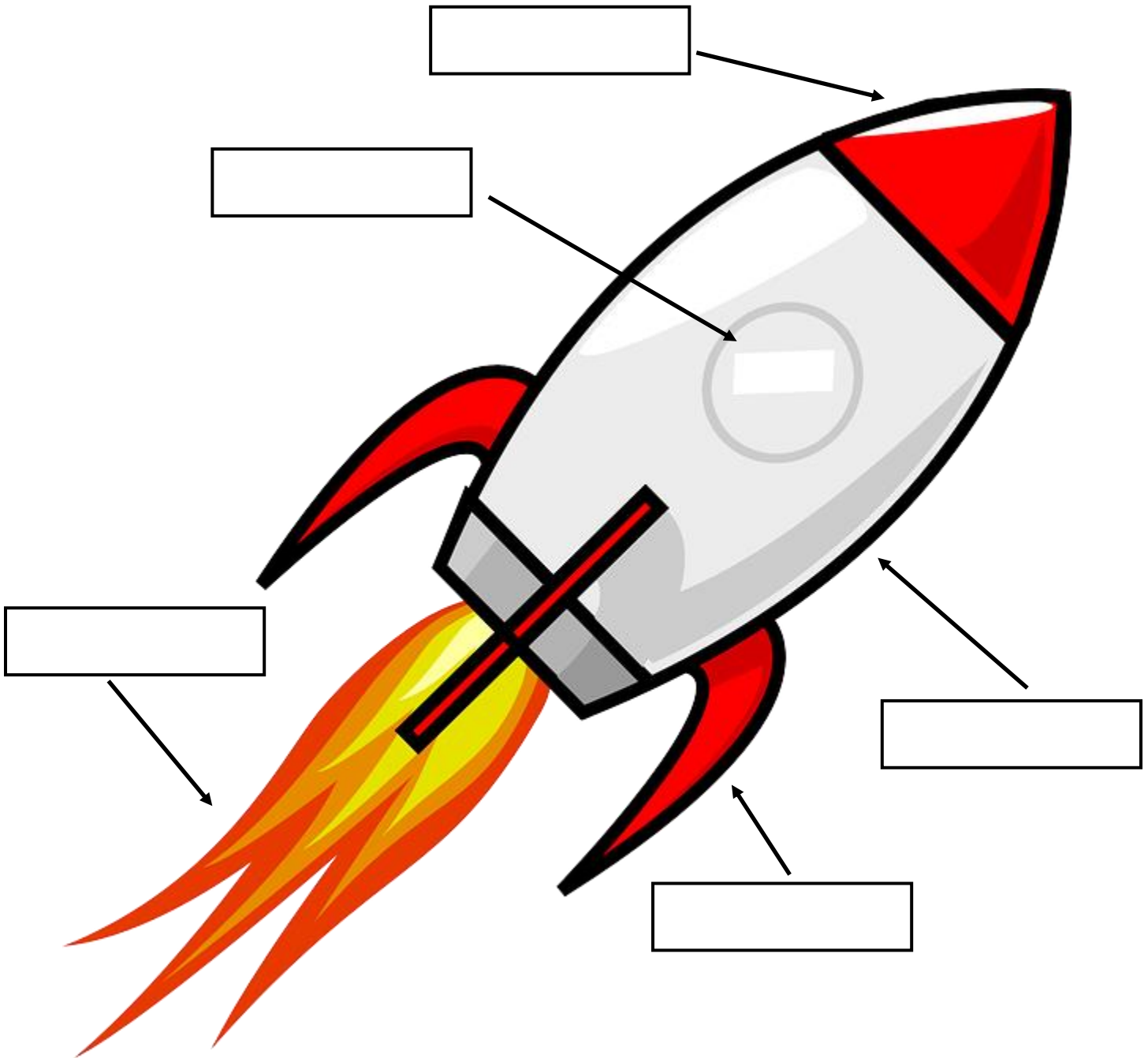
February 2019

Project Exploration: S.T.E.M.



Up, Up and Away!

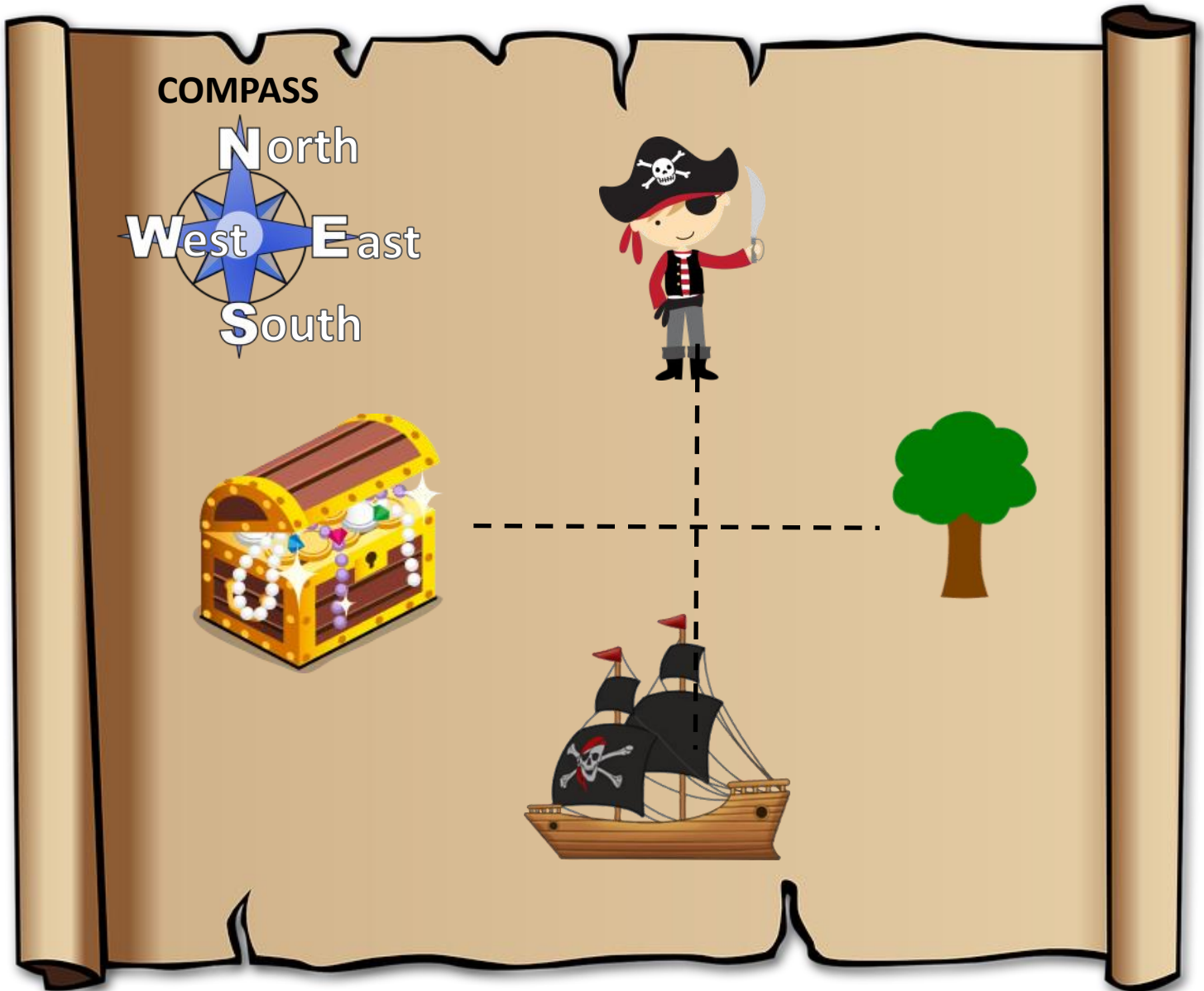
One 4-H project you can learn about in the S.T.E.M. category is called Aerospace. Rockets are a really fun part of space to learn about! To start, use the words in the Word Bank below to fill in the rectangles and label the basic parts of a rocket.



<u>WORD BANK</u>	Exhaust Flame
Body Tube	Fin
Control	Nose Cone

Map Skills

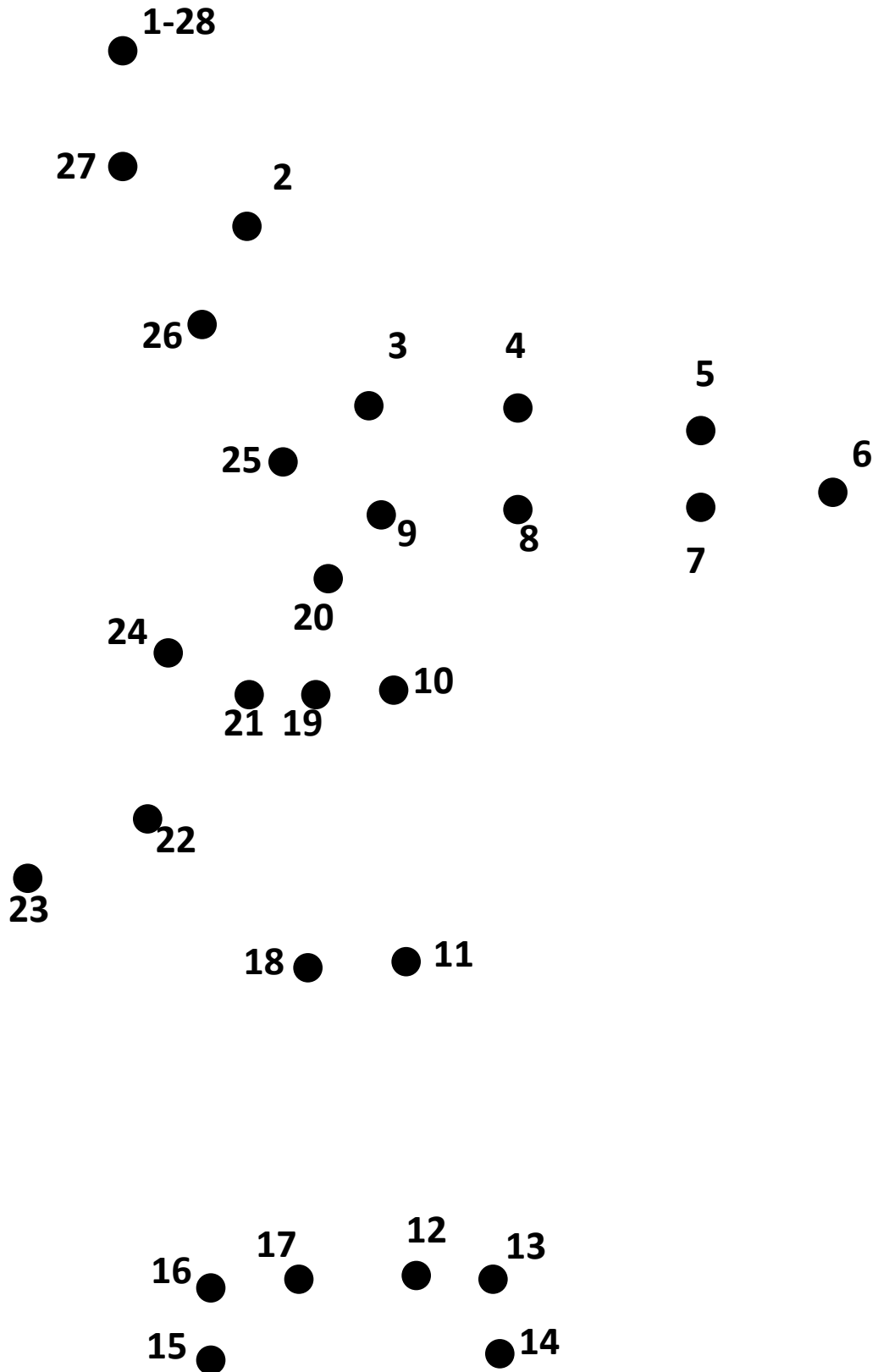
A very important skill you will learn over and over is how to tell where you are directionally - North, South, East or West of another thing. A compass is a common tool to help you tell these directions. Using the compass below, see if you can tell which directions the objects are from each other by looking at the map. It may take a few tries to get the hang of it!



1. The treasure chest is _____ of the tree.
2. The pirate is _____ of the ship.
3. The tree is _____ of the treasure chest.
4. The ship is _____ of the pirate.
5. The tree is _____ and _____ of the ship.

Wind Energy

Wind energy has come a long way in the last few years. More and more people are learning how to harvest the wind for energy - fuel for things like lightbulbs, machines and more! This harvesting process is mainly done through windmills. Have you ever seen those big white windmills in a field somewhere? They are harvesting the wind's energy! Complete the dot-to-dot below to see what a windmill looks like!



Sudoku

Sudoku is a fun numbers game that uses logic and deductive reasoning skills. These kind of puzzles are very good for exercising your brain! Each dark outlined box of 4 squares can only contain the numbers 1-4, using each number only once. This rule also applies to each row and column of 4 boxes. So, if you follow the rules only 1 number (1, 2, 3 or 4) can go into a box. Try to finish the example below to get a feel for it. Then, try your hand at completing the rest of the puzzles below!

3	1	4	2
2	4	1	
1	3	2	
4			1

2	3	4	1
3	4	1	2

	2		
	1	4	
		3	

3			
			2
4			1

Secret Message

Have you ever wanted to send a secret note or picture before? Were you ever jealous of secret agents on TV or in books that could use and see invisible ink drawings? Well, now you can do it too, using science. There are many scientific experiments you will do as you get older, but here is a simple one you can try at home with just a few easy things!



Materials

- Lemon juice
- Water
- Q-tip or small craft paintbrush
- White paper (printer or letter works best)
- Warm lamp bulb, flashlight, heat vent, or other warm surface



Directions

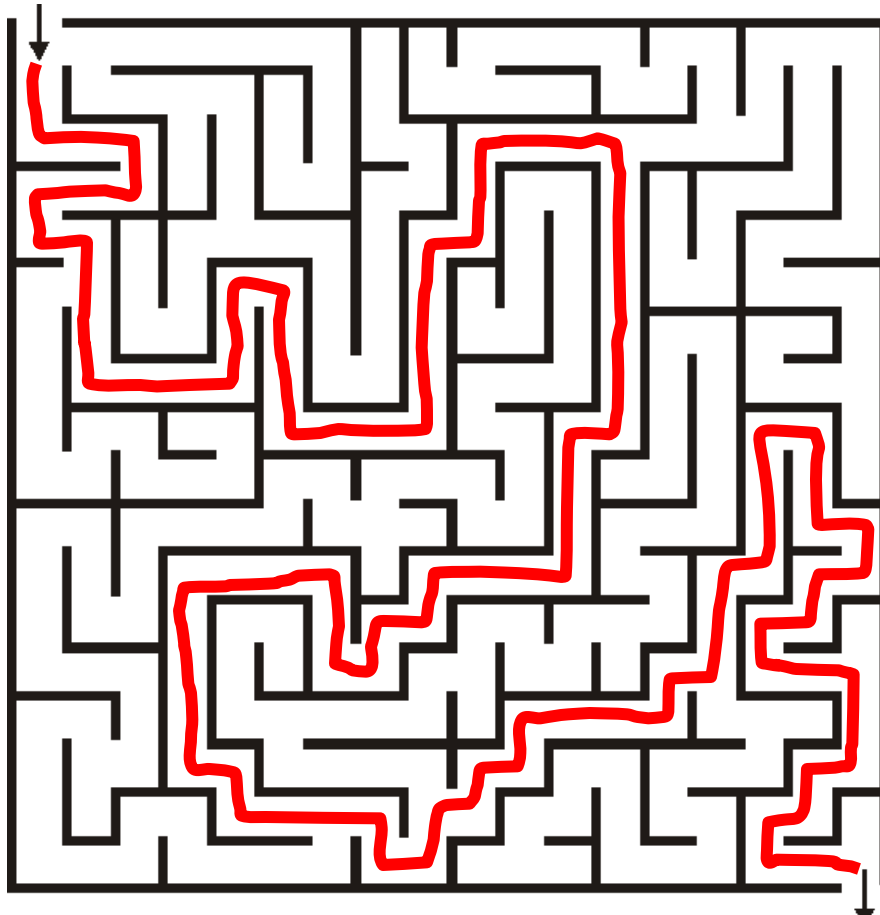
1. Pour some lemon juice into a small bowl, paper cup or other container. Add just a little bit of water to dilute it.
2. Using a Q-tip or paintbrush, dip the tip in the lemon juice/water mixture and write or draw your secret message on your white paper.
3. Let the paper completely dry. It may wrinkle up a little bit from being wet, but you won't be able to see where you drew with the lemon juice mixture.
4. After drying, place your paper over a warm lightbulb such as a plugged in lamp, a flashlight that gets warm, over your heater vent, or any other warm surface you can find. (*Please use caution and ask an adult if you are unsure whether a surface is warm or not.*)
5. As the light warms up your paper, you should see your secret message appear!

January Answer Keys

Answers to all *Cloverbuddies* activities will appear on the back cover of the following month's issue. For answers to this issue, watch for March's installment of *Cloverbuddies*!



Money Maze



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