

# Rural Training Center – Thailand (RTC-TH)

REEEPP

F OCUS

An innovative, non-traditional community-based environmental education program integrating math, science, geography, English language, and technology lessons for environmental stewardship using interactive experiential learning in outdoor settings at Ban Na Fa Elementary School, Nan Province, Thailand.



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# Weather Observing: Measuring Wind Direction



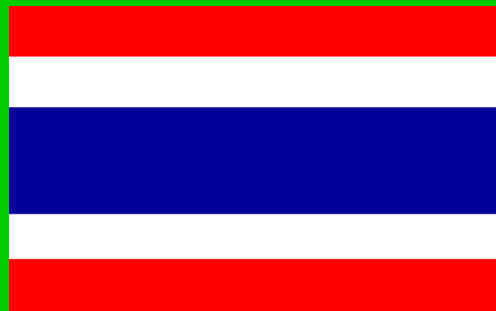


This lesson was originally created when the RTC-TH was a program of ESS I (Earth Systems Science, Inc.), a California educational non-profit organization co-founded by Gregory Lee. In 2006, the RTC-TH was co-founded by Gregory and Saifon Lee as a separate organization.



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# This is an English Language Training module of **REEEPP**

Rural Environmental Education Enhancement Pilot Program  
presented by

The Rural Training Center-Thailand

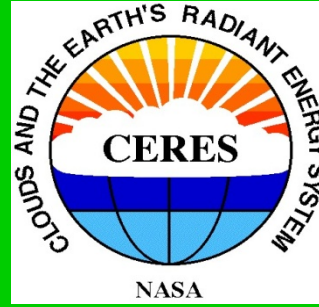
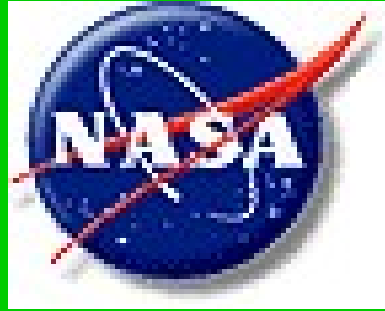
E-mail: [rtc2k5@gmail.com](mailto:rtc2k5@gmail.com)

[www.neighborhoodlink.com/org/rtcth](http://www.neighborhoodlink.com/org/rtcth)



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# The RTC-TH developed this lesson as part of the NASA CERES S'COOL Project component of REEEPP

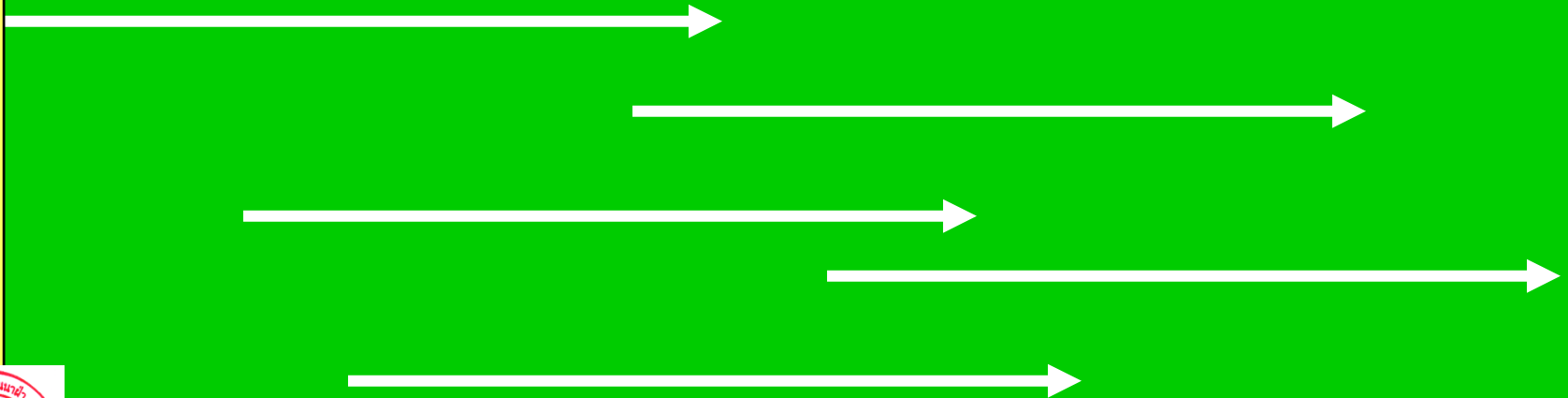


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# Wind

is the horizontal movement of air.

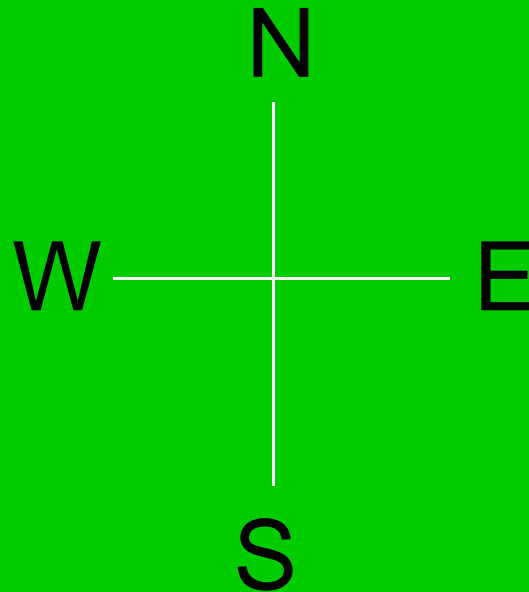


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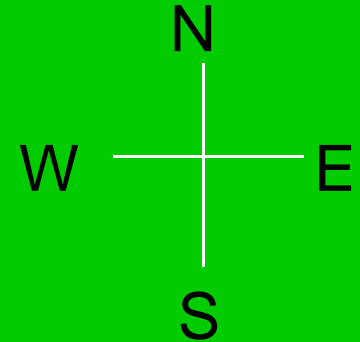


Winds are named for the direction **FROM** which they come.



# For Example:

A wind blowing  
from North to  
South is called  
a “North  
Wind”.



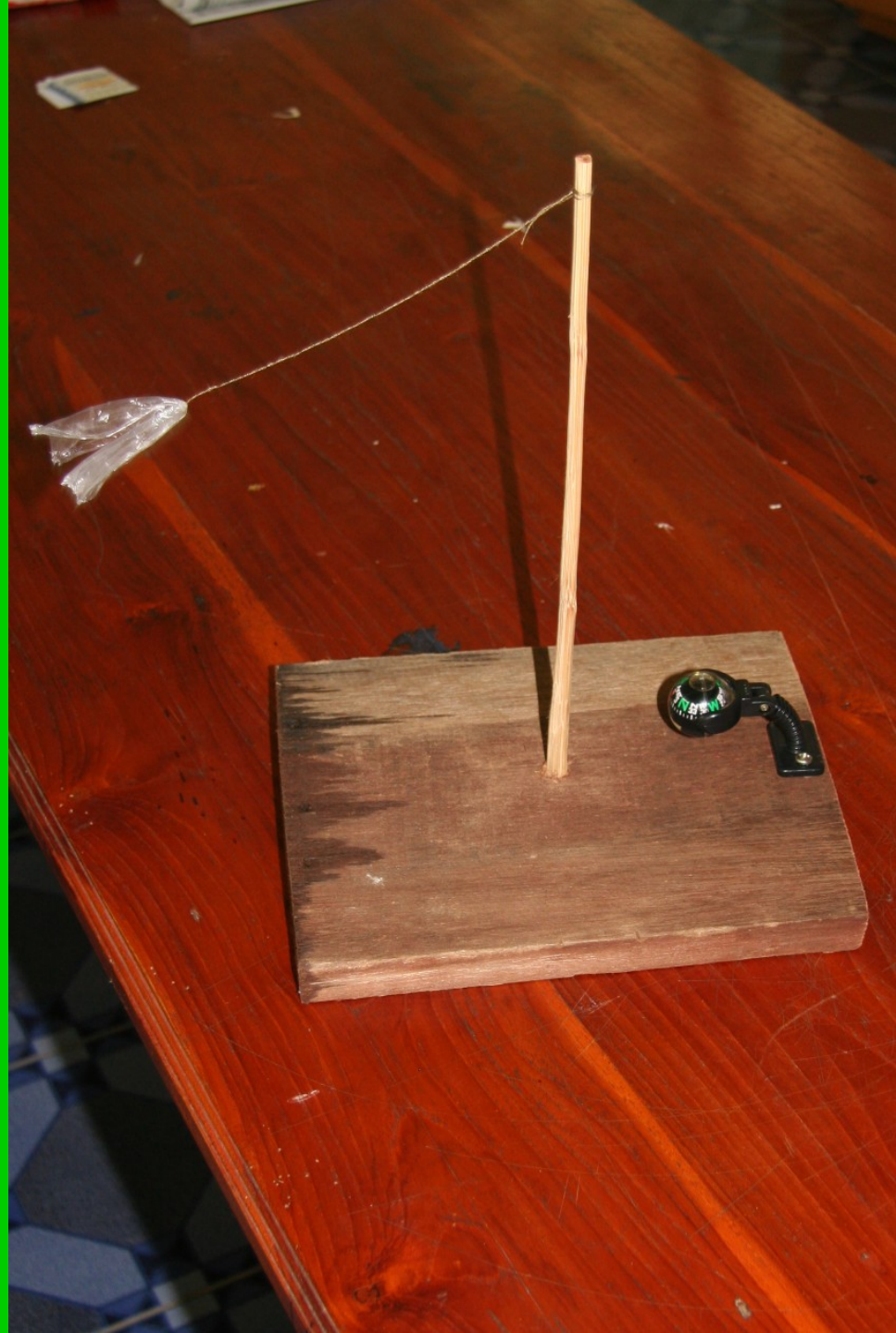


A wind tell  
“tail” can  
help you  
measure the  
wind  
direction.



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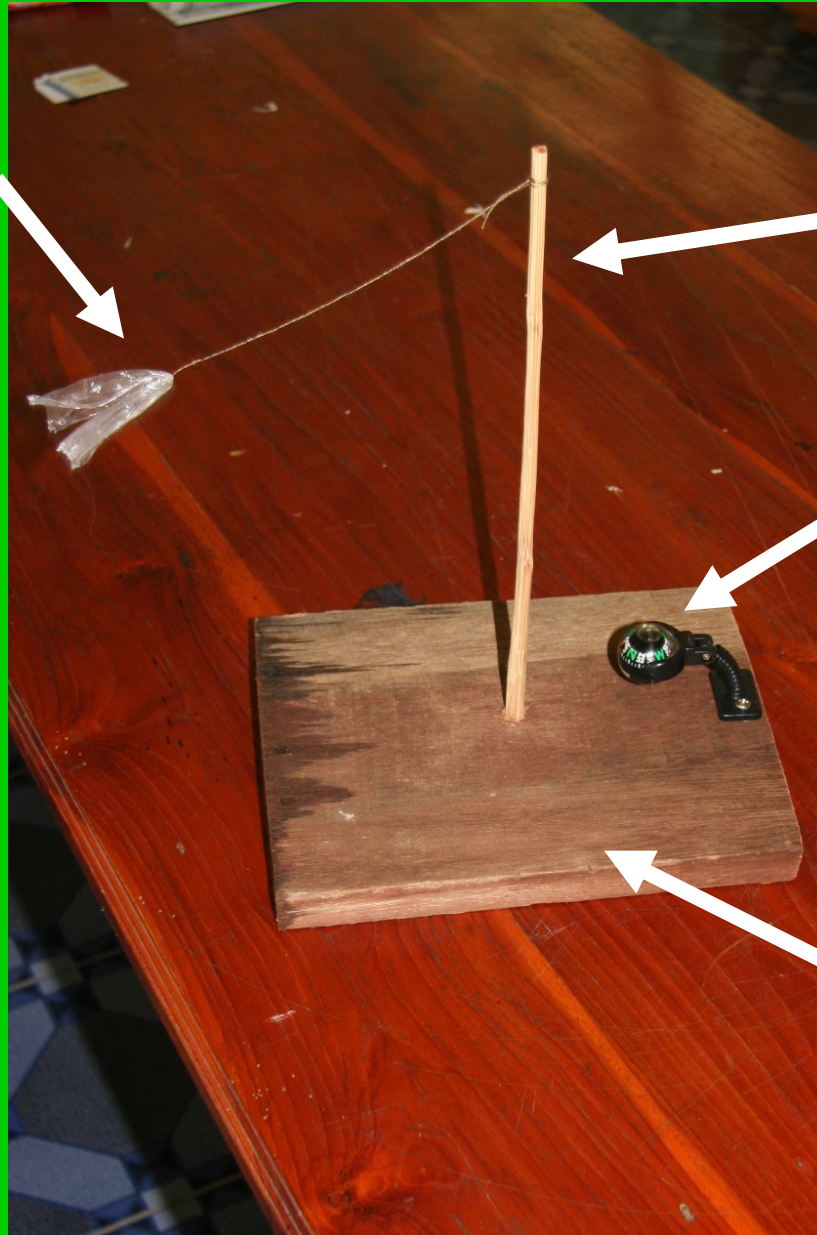
# The Parts of a Wind Tell “Tail”

Tell “Tail”

Rod

Compass

Base board





A rod is  
put in the  
middle of  
the base  
board.



A  
compass  
is place  
in line  
with the  
rod.

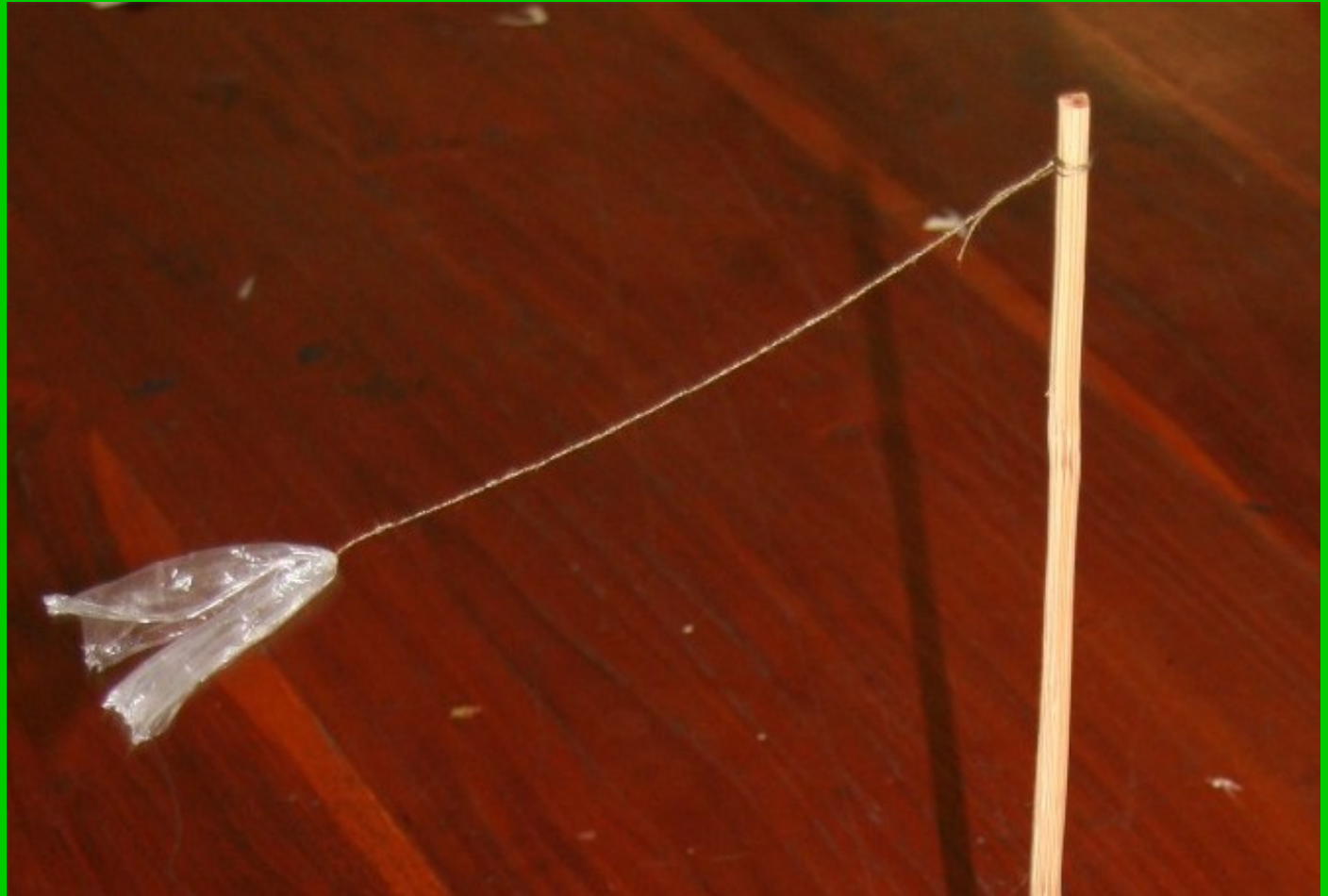


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# To make the Tell “Tail”...



...tie a piece of plastic bag to the rod with a thread.



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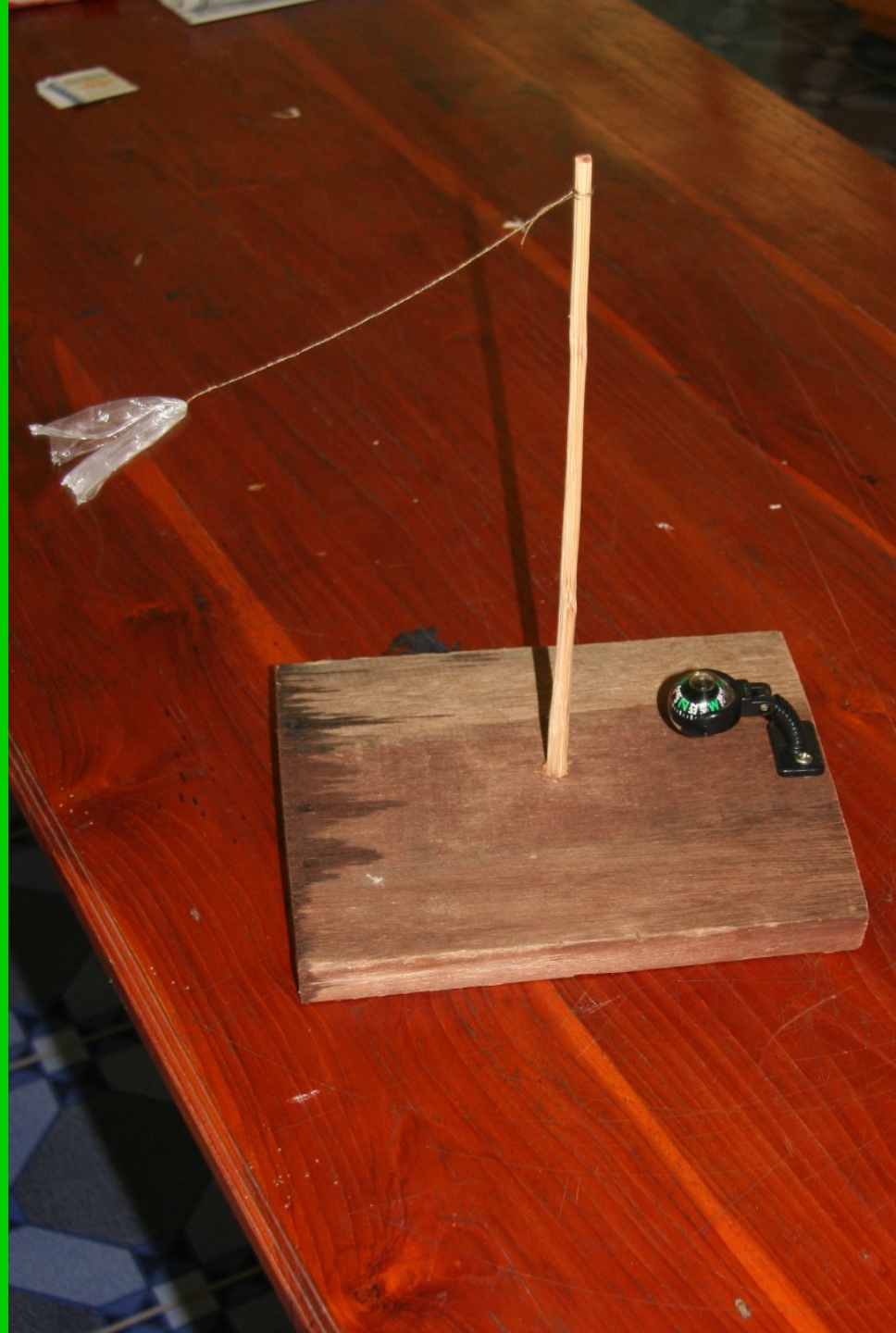
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Do you  
know the  
parts of a  
wind tell  
“tail”?

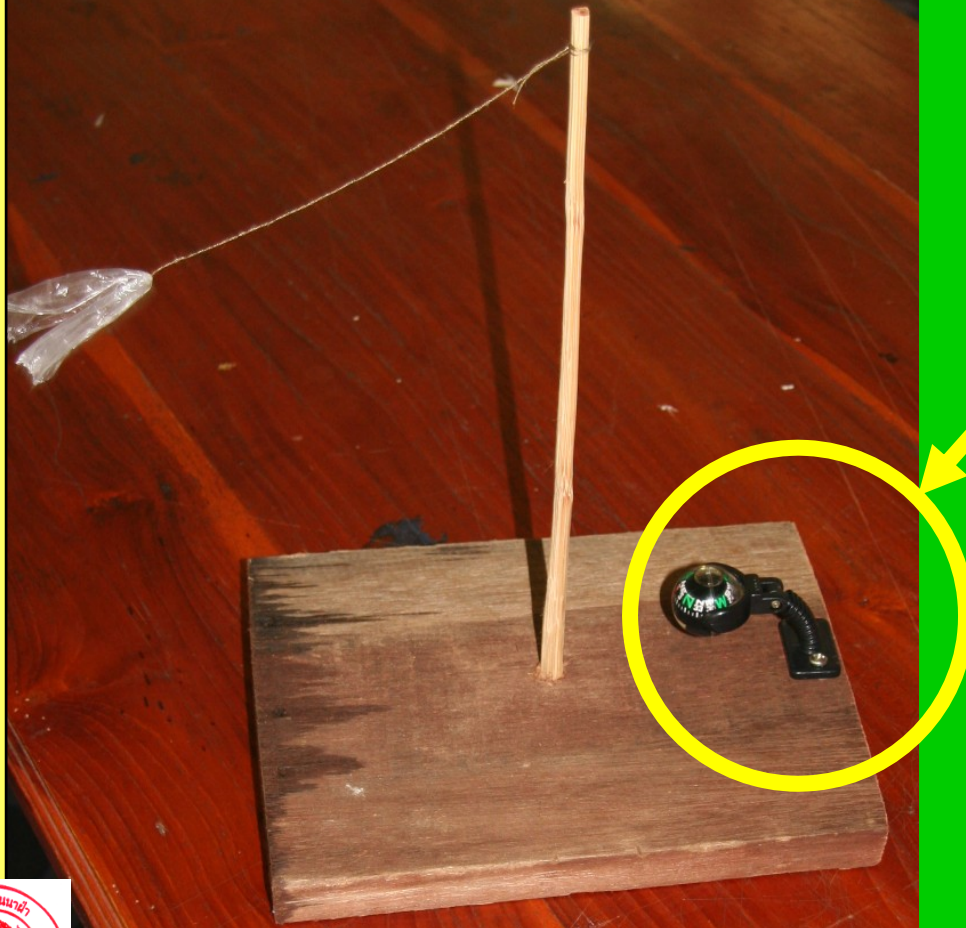


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# What is this?



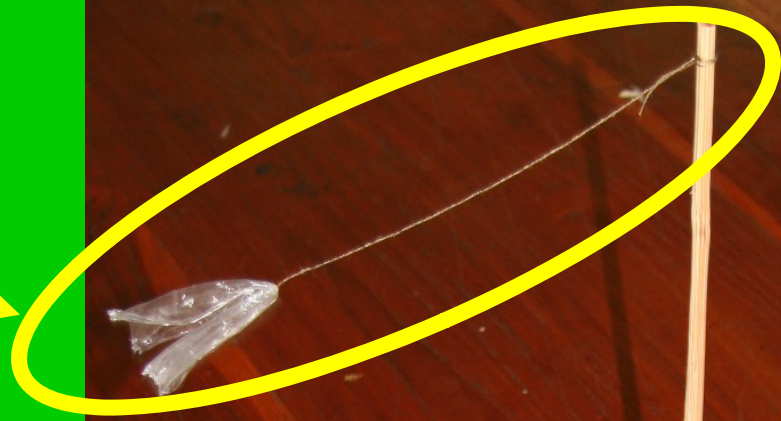


# It is the compass



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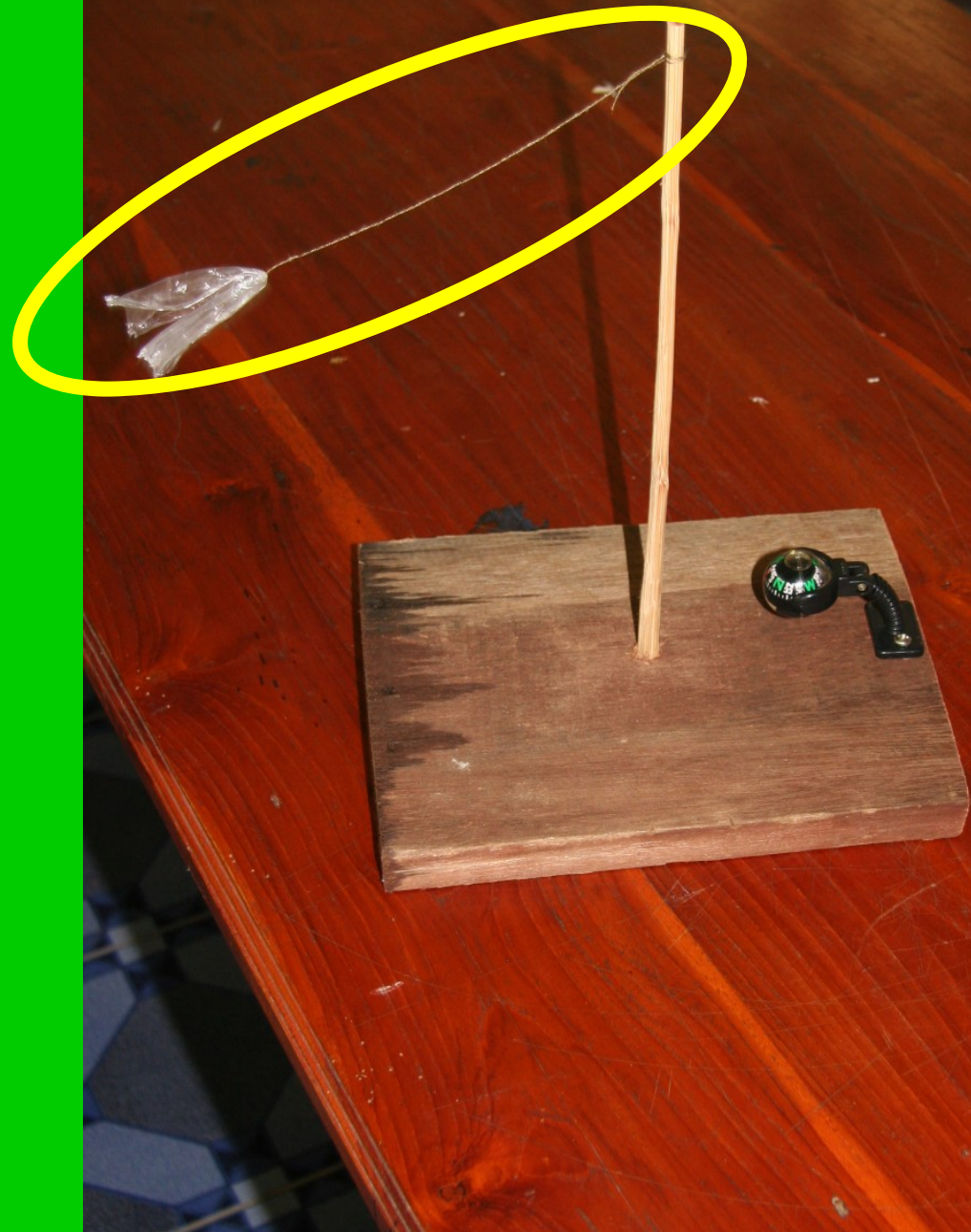
# What is this?



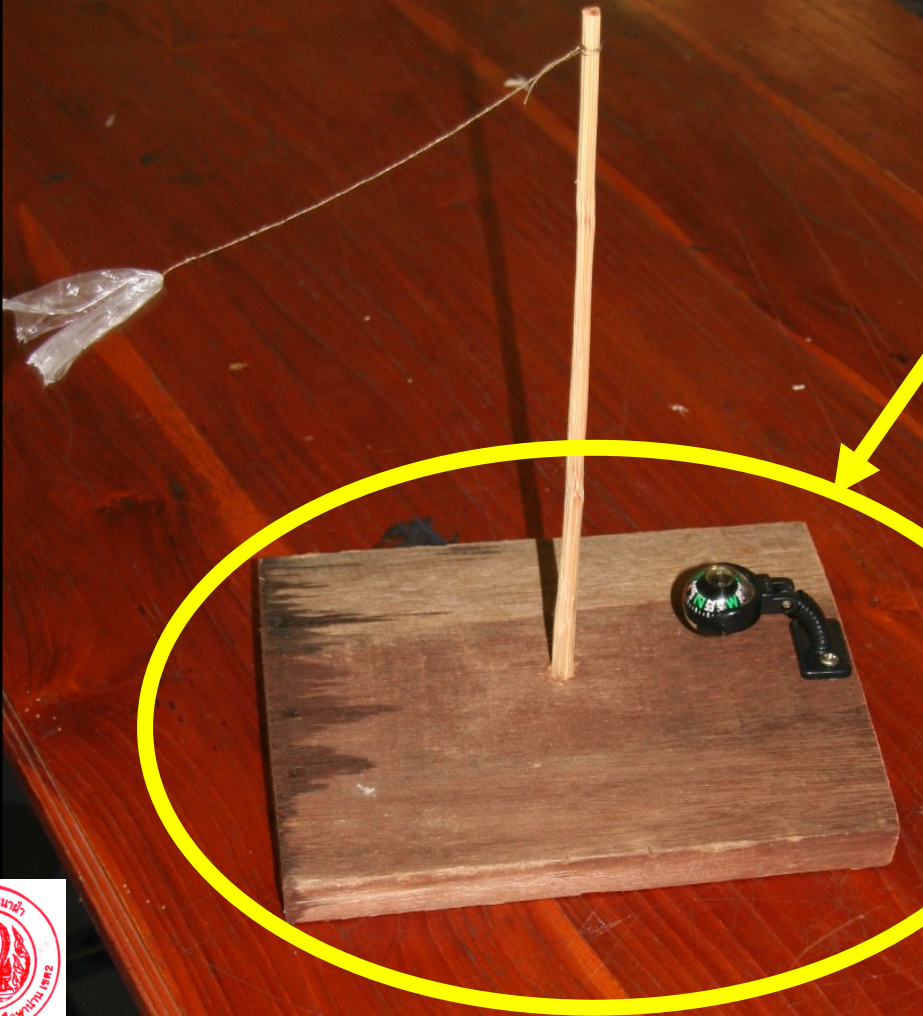
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It is the  
tell “tail”



# What is this?



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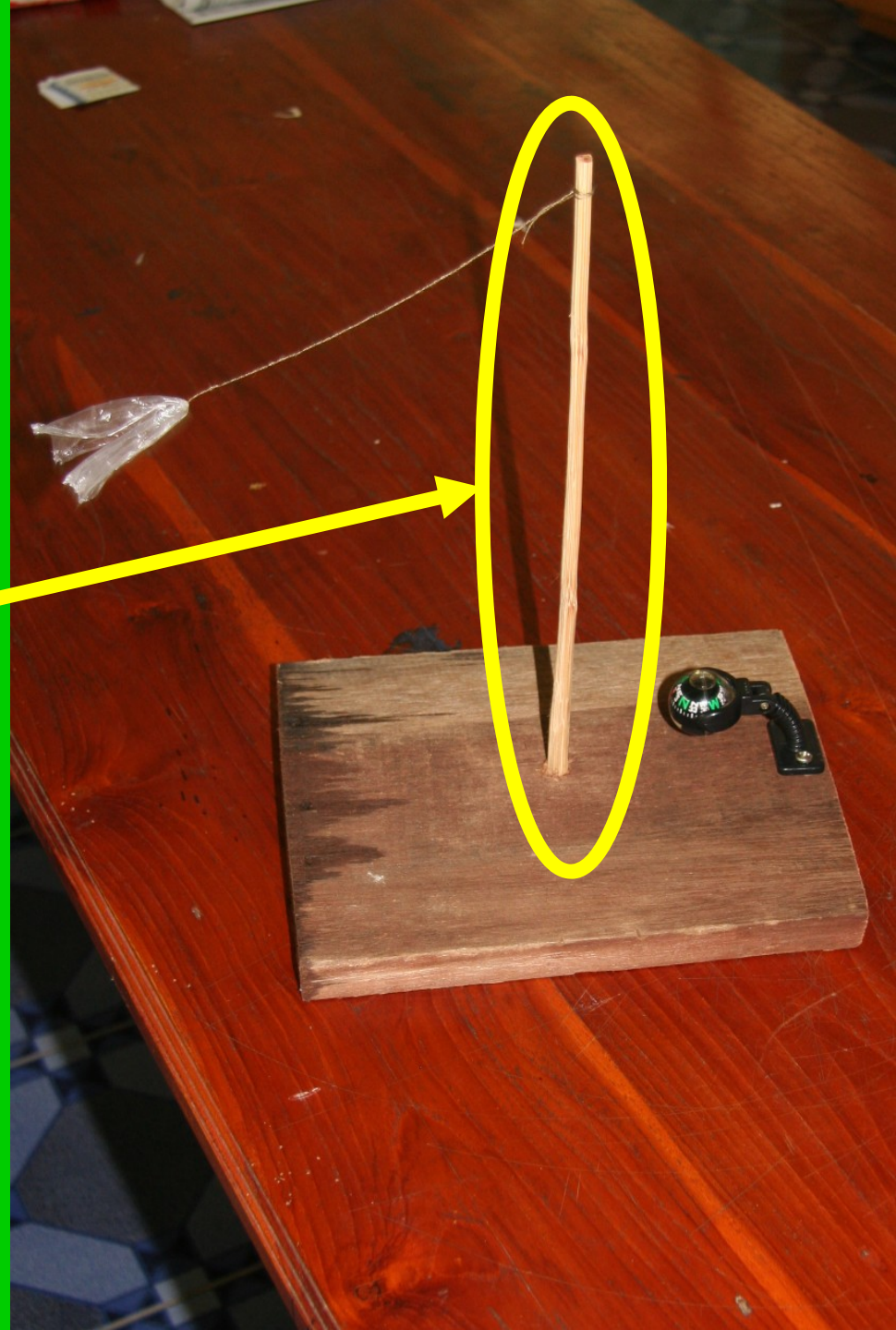
It is the  
base  
board.



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# What is this?

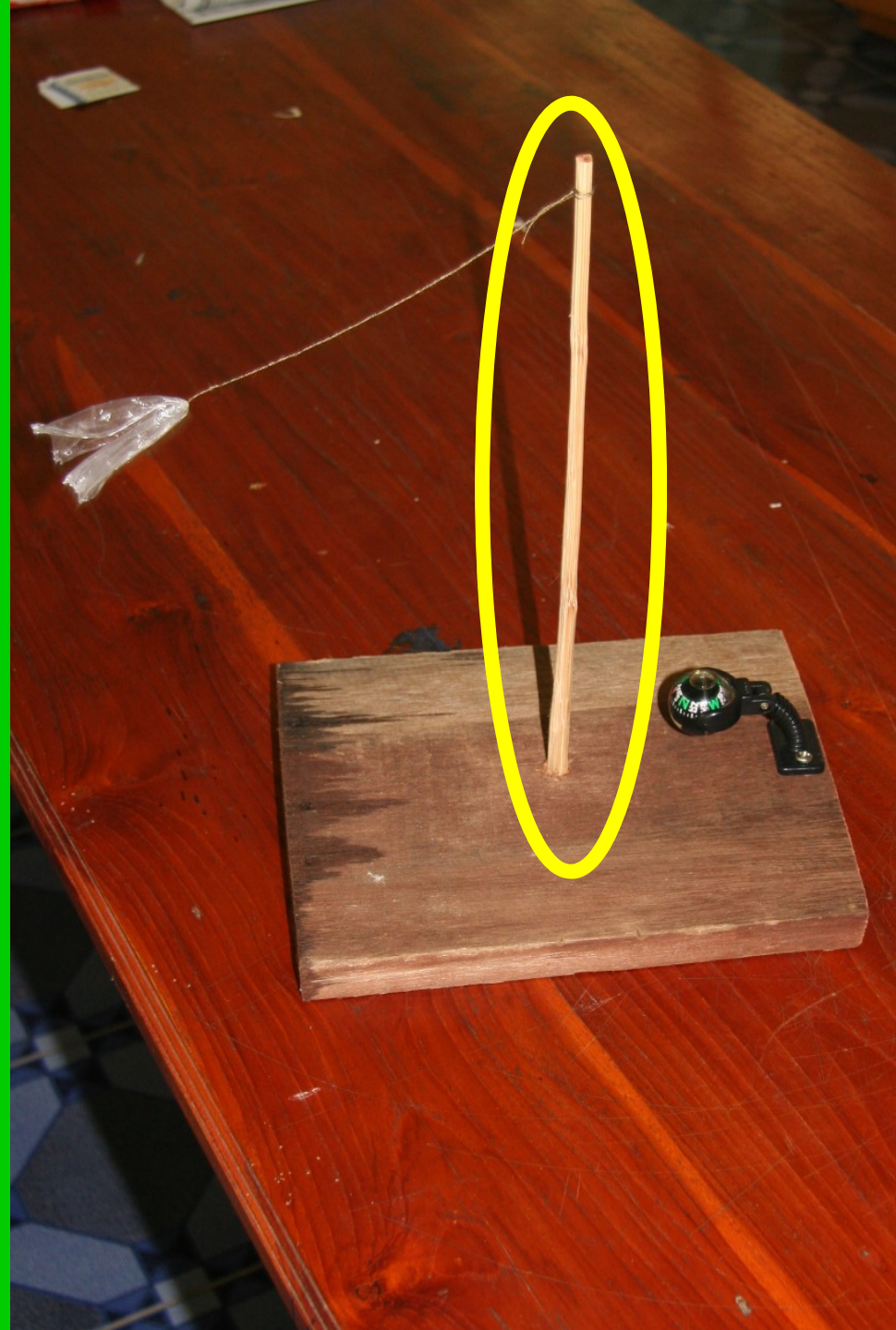




# It is the rod.



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There are 4  
steps in  
using the  
Wind Tell  
“Tail” to  
measure  
wind  
direction.



Step 1. Put  
the Wind  
Tell “Tail” in  
an open  
area where  
the wind can  
blow on it.





Step 2.  
Step back  
from the  
instrument  
and watch  
the tell “tail”  
as the wind  
blows.

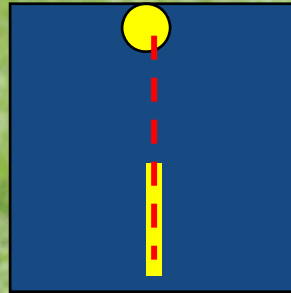


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# Step 3.

Turn the base board so the compass is in front of the rod AND they make a straight line with the tell “tail”.





# Step 4.

Read the  
compass  
direction shown  
at the red  
indicator line.  
This is the wind  
direction.



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NASA CERES

# Student Cloud Observation On-Line Report Form (REEEPP Version)

A 501 (c)(3) non-profit  
educational organization

P.O. Box 8042, Van Nuys, CA 91409-8042

Phone: (818) 343-2363

E-mail: earthsystemscience@yahoo.com

Community-based Environmental Education for Families and Sustainable Neighborhoods

Login ID: Promwangkhwa

Na Fa Village, Thawangpha

Latitude: 19.08 N Longitude: 100.86 E

Date: Year \_\_\_\_ Month \_\_\_\_ Day \_\_\_\_

Satellite: ☐ Terra ☐ Aqua

Time Zone: UT +7

(24-hr format) Local Time: Hr \_\_\_\_ Min \_\_\_\_ Universal Time: Hour \_\_\_\_ Min \_\_\_\_

**CLOUD OBSERVATIONS (Required)**

If more than one cloud layer exists, check the boxes to show the clouds are present.

Cloud Height	Cloud Type	Visual Opacity			Cloud Cover
		Transparent	Translucent	Opaque	
High	<input type="checkbox"/> Cirrus				• Use the Na Fa Cloud Cover Estimator Dome Worksheet to record the student observations and calculations. • Then check the box below
	<input type="checkbox"/> Cirrocumulus				
	<input type="checkbox"/> Cirrostratus				
Middle	<input type="checkbox"/> Altostratus				<input type="checkbox"/> Overcast (95-100%)
	<input type="checkbox"/> Altostratus				
Low	<input type="checkbox"/> Cumulonimbus				<input type="checkbox"/> Mostly cloudy (50-95%)
	<input type="checkbox"/> Cumulus				
	<input type="checkbox"/> Stratocumulus				<input type="checkbox"/> Partly cloudy (5-50%)
	<input type="checkbox"/> Stratus				
	<input type="checkbox"/> Nimbostratus				<input type="checkbox"/> Clear (0-5%)
	<input type="checkbox"/> Fog				

**CONTRAILS (This is optional.)**

1	Can you see high into the sky?	<input type="checkbox"/> Yes, go to #2 <input type="checkbox"/> No, why?	<input type="checkbox"/> Sky is overcast <input type="checkbox"/> Too many clouds	Any natural looking cirrus clouds in sky with the persistent contrails?	<input type="checkbox"/> Yes, type?	<input type="checkbox"/> Cirrus <input type="checkbox"/> Cirrocumulus <input type="checkbox"/> Cirrostratus	Go to #5
2	Can you see any contrails?	<input type="checkbox"/> Yes, go to #3 <input type="checkbox"/> No, why?	<input type="checkbox"/> None present <input type="checkbox"/> Sky is overcast <input type="checkbox"/> Too many clouds		<input type="checkbox"/> No	Make a fist to block out the sun. Can you see a halo?	<input type="checkbox"/> Yes <input type="checkbox"/> No
3	Contrail type & count	<input type="checkbox"/> Short-lived <input type="checkbox"/> Persistent	Count? _____ Go to #4	5	Estimate % sky covered by persistent contrails		

**GROUND OBSERVATIONS**

Surface Cover (Required)		Surface Measurements (These are optional.)			
Yes	No	Precipitation	<input type="checkbox"/> mm <input type="checkbox"/> in	Wind	Speed <input type="checkbox"/> mph <input type="checkbox"/> mph
<input type="checkbox"/>	<input type="checkbox"/>	Temperature	<input type="checkbox"/> °C <input type="checkbox"/> °F	Direction	<input type="checkbox"/> mph <input type="checkbox"/> mph
<input type="checkbox"/>	<input type="checkbox"/>	Relative Humidity	<input type="checkbox"/> %	Barometric Press.	<input type="checkbox"/> mm Hg <input type="checkbox"/> mm Hg
<input type="checkbox"/>	<input type="checkbox"/>	Wet		In Hg	Trend
<input type="checkbox"/>	<input type="checkbox"/>	Dry		mm Hg	
<input type="checkbox"/>	<input type="checkbox"/>	% Difference		Mo	

Report the  
Wind  
Direction  
on this  
part of the  
form



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# Remember...

...winds are  
named for the  
direction FROM  
which they come.  
So this wind is a  
SE (southeast)  
wind.



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Do you know  
how to use a  
wind tell “tail”  
to measure  
the wind  
direction?

Try to answer  
these questions.



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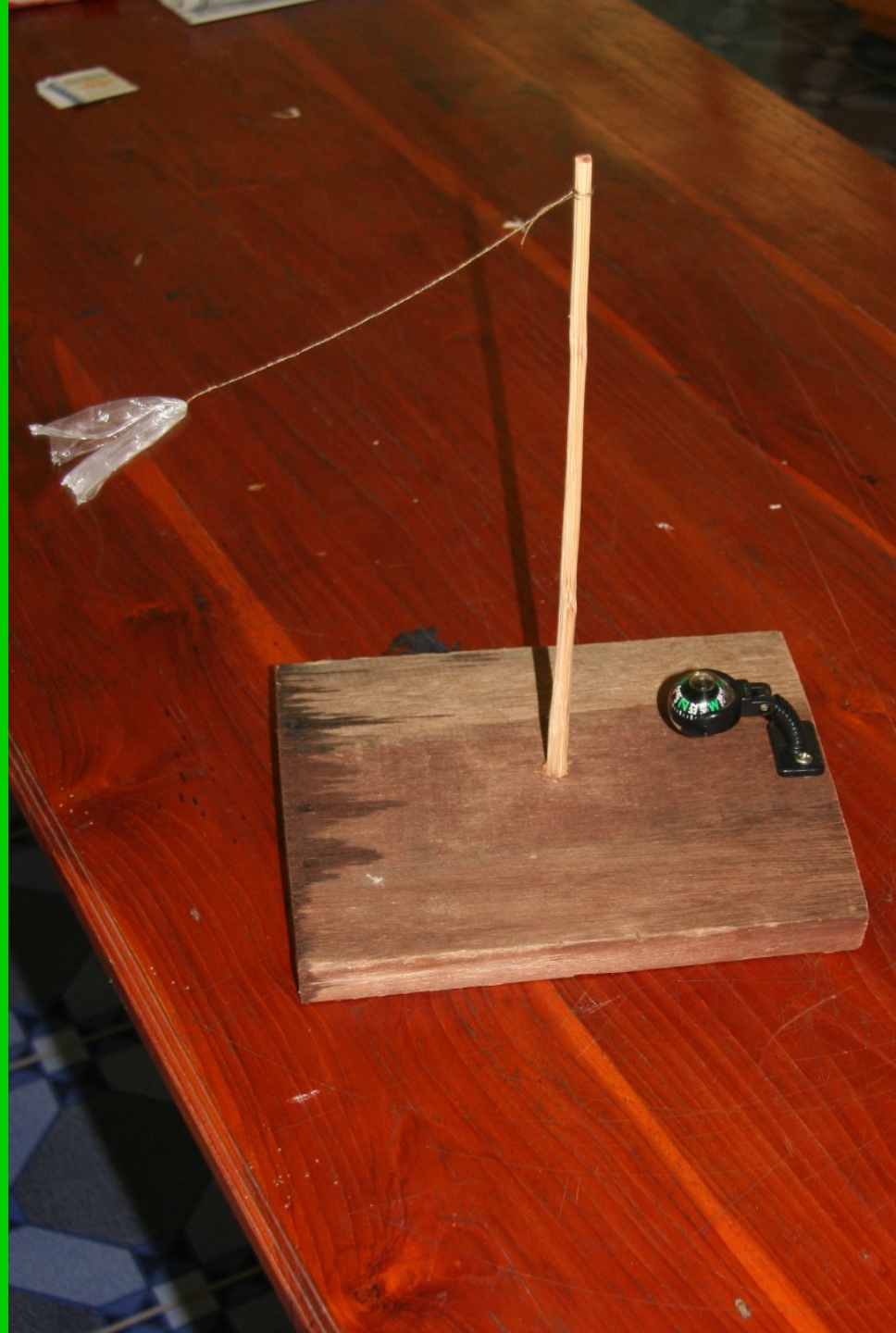
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How many  
steps are  
there to use  
a wind tell  
“tail”?



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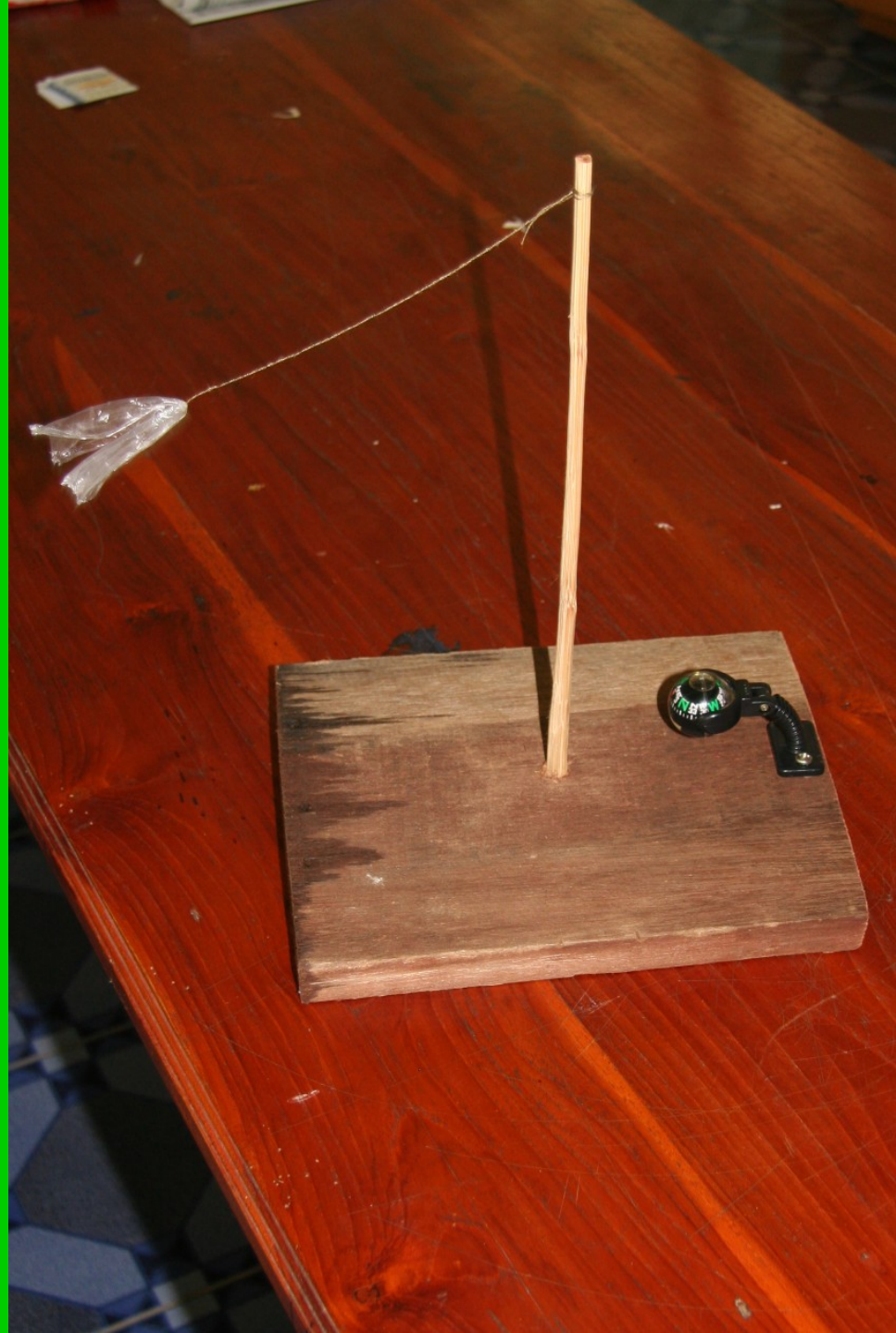


There are 4  
steps in  
using a  
wind tell  
“tail”.



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# What is Step 1?



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Step 1. Put  
the Wind  
Tell “Tail” in  
an open  
area where  
the wind can  
blow on it.



# What is Step 2?



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Step 2.  
Step back  
from the  
instrument  
and watch the  
tell “tail” as  
the wind  
blows.



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# What is Step 3?

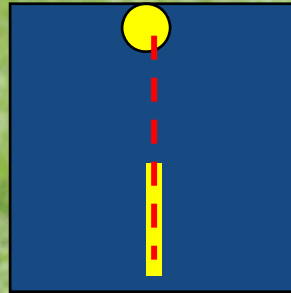


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# Step 3.

Turn the base board so the compass is in front of the rod AND they make a straight line with the tell “tail”.



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# What is Step 4?



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# Step 4.

Read the  
compass  
direction shown  
at the red  
indicator line.  
This is the wind  
direction.



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# How do you name a wind?



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Winds are  
named for the  
direction  
**FROM** which  
they come.



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# RTC-TH

## Rural Training Center-Thailand

is dedicated to providing  
community-based  
environmental education  
for the self-sufficiency  
and sustainability of  
small rural family farms



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**The RTC-TH was created to honor the memory of Mr. Tang Suttisan, a father, a farmer, and a man who valued education and used it in starting his family farm**



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# REEEPP

## Rural Environmental Education Enhancement Pilot Program



An innovative, non-traditional community-based environmental education program integrating math, science, geography, English language, and technology lessons for environmental stewardship using interactive experiential learning in outdoor settings at Ban Na Fa Elementary School, Nan Province, Thailand..



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# The End



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