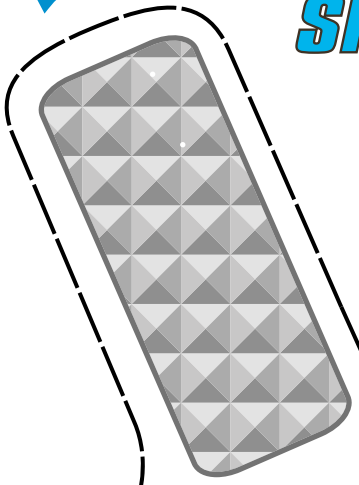
QUEST™ SKYSCOPE™

DIY INCLINOMETER



THIS IS THE BODY

DIRECT READ SIDE

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

0 14 27 42 56 72 89 109 130 155 185 221 268 332 426 578 824 1120

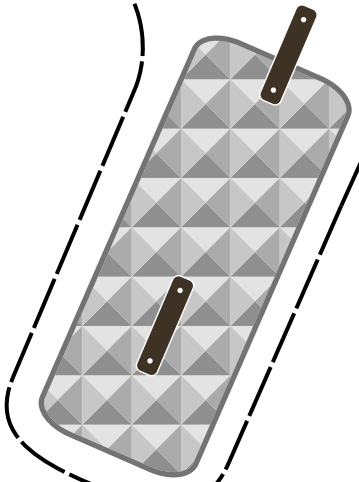
0 26 53 80 109 140 173 210 252 300 358 428 520 643

A

B

POINT TO TOP

POINT TO TOP



THE FINE PRINT

LEGEND

Cut on this line

Fold on this line

This is where you should staple the Skyscope after folding the two halves.

This circle indicates the place that you should punch a hole in the template with a standard size hole punch.

THIS IS THE PENDULUM

B

This is your Angular Distance!

DO NOT CUT THIS LINE!

Attach Paperclip Here

DO NOT CUT THIS LINE!

300 ft

155 ft

This is your estimated height (altitude)

Choose your baseline distance

This is your angular distance

A

Related teaching materials and a template for this Quest Skyscope can be found FREE at...

www.questaerospace.com

The Outfitter for Aerospace Education

QUEST™ SKYSCOPE™

Quest is your source for Aerospace Education:
Model Rockety Products, Gliders, Kites and Water Rockets

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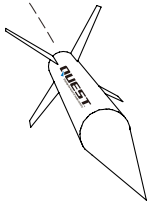
QUEST™ SKYSCOPE™



TANGENT CALCULATION SIDE

Point to top of rocket flight or top of building. Read Angle. Find Tangent and multiply by baseline!

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0

www.questaerospace.com

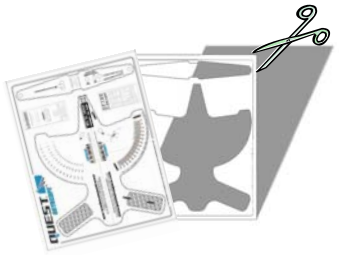
This template is available as a free download from www.questaerospace.com

QUEST™ SKYSCOPE™ DIY INCLINOMETER

YOUR GUIDE TO BUILDING THE

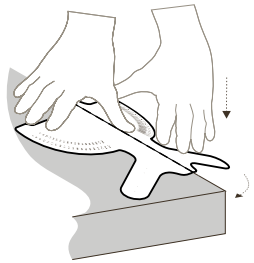
Quest Skyscope INCLINOMETER

This "Do It Yourself" inclimometer is a great tool for estimating the altitude of static or moving objects. You can build this inclinometer in 30 mins. or less using common materials! This project and others are available at www.questaerospace.com



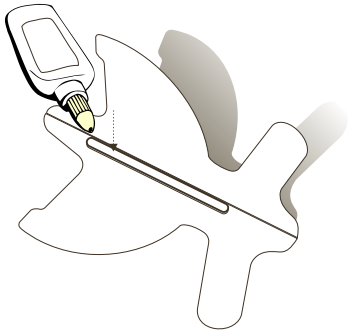
step 1

Download the free Quest Skyscope template in PDF form from www.questaerospace.com. Print the template on heavy cardstock, then carefully cut out the "Body" and the "Pendulum" pieces with scissors.



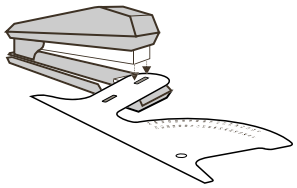
step 2

Place the Skyscope Body face side up along a square table edge. Fold cleanly down the middle fold line.



step 3

Turn the Skyscope Body over. Using white glue, attach a standard wood popsicle stick along the inside fold line.

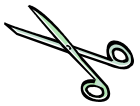


step 4

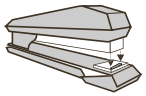
Fold the halves of the Skyscope Body completely together and staple at the locations shown in the template

For this project you will need:

White Cardstock



Scissors



Stapler

Hole Punch

Popsicle Stick

White Glue

Large Paper Clip

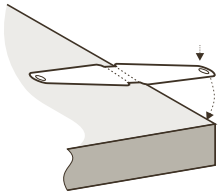
Small Brad

NEXT PAGE >

QUEST™

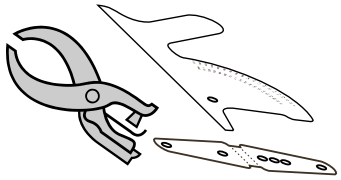
SKYSCOPE™

DIY INCLINOMETER



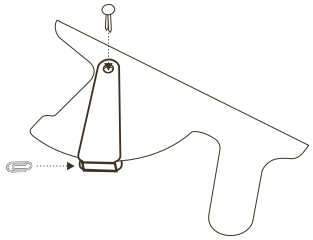
step 5

Place the Skyscope Pendulum face side up along a square table edge. Fold cleanly at the two middle fold lines.



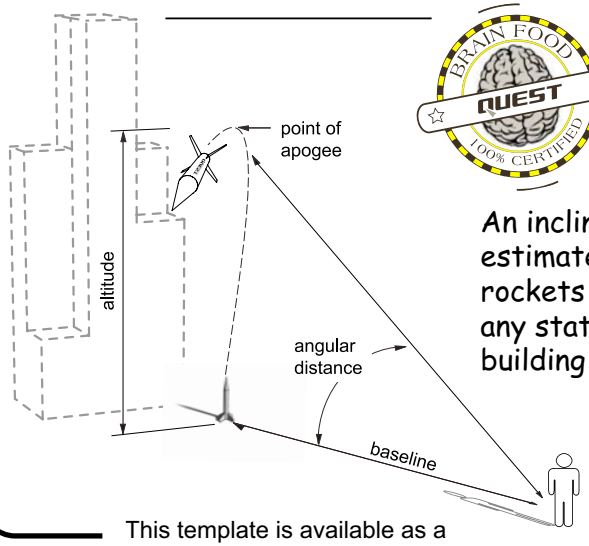
step 6

Use a standard hole punch to create holes at the locations indicated on both the Body and Pendulum.



step 7

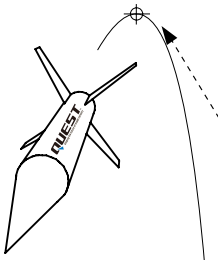
Attach Pendulum in place and secure loosely with standard brad. Weigh bottom of pendulum with large paper clip. Now you're done and your Skyscope is ready to use!



FOOD FOR THOUGHT..

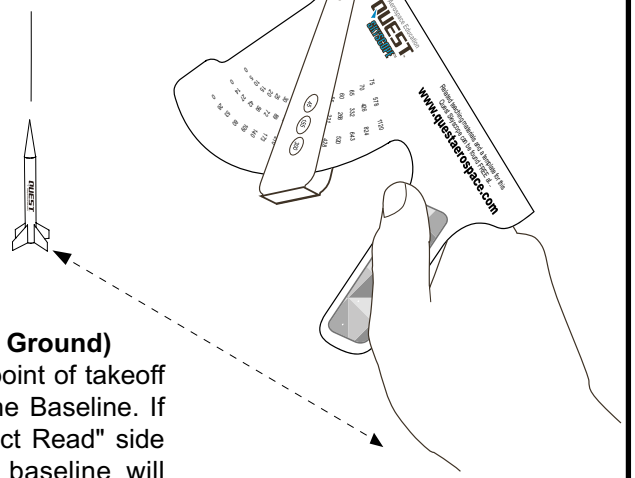
An inclinometer can be used to estimate the altitude of a model rockets flight or you can measure any static object also (such as a building or a radio tower).

What is "apogee"?...
Apogee is the highest point of the rocket's flight path.



TANGENT CALCULATION:
Determining altitude by the "tangent method" is more complex than the "direct read" method - but also more accurate! You can learn more about both methods in Quest's ALT102 Working Unit - available free from:
www.questaerospace.com

DIRECT READ (In the Air)
You will want to "sight" along the top edge of your Skyscope. Follow the path of the Quest model rocket from launch to "Apogee". When the Quest model rocket is at apogee - stop! Have a partner read the estimated altitude (in feet) from the Direct Read side of your Skyscope.



DIRECT READ (On the Ground)
The distance from the point of takeoff to your toes is called the Baseline. If you are using the "Direct Read" side of the Skyscope your baseline will need to be either 155ft. or 300ft. from the launch pad.