

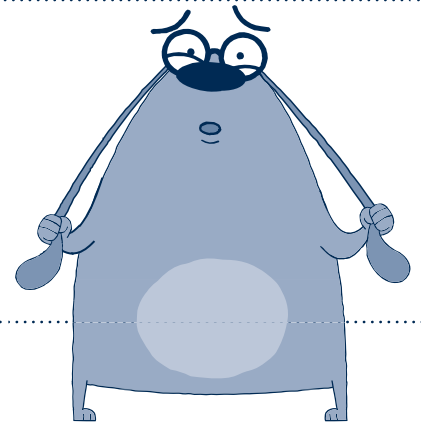
Help Wanted!

Game Board



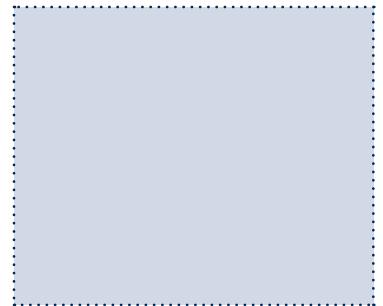
1 Figure out Ruff's Problem

Tape problem here

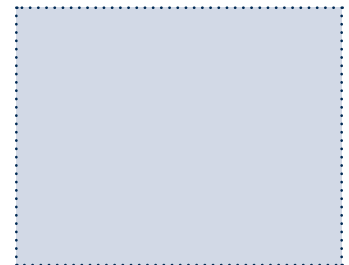
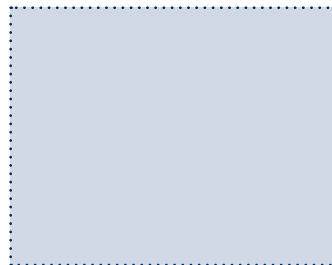
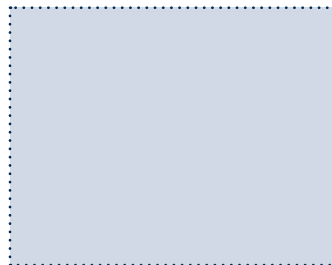
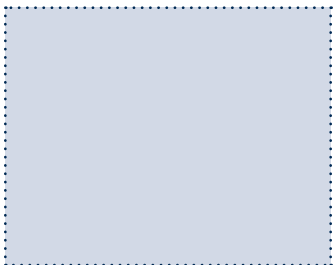


2 Hire a scientist to help (20 points)

- | | |
|--|---|
| <input type="checkbox"/> Astronomer (explores the universe) | <input type="checkbox"/> Marine Biologist (explores ocean life) |
| <input type="checkbox"/> Botanist (explores plant life) | <input type="checkbox"/> Meteorologist (explores weather) |
| <input type="checkbox"/> Chemist (explores chemical reactions) | <input type="checkbox"/> Paleontologist (explores prehistoric fossils) |
| <input type="checkbox"/> Entomologist (explores insects) | <input type="checkbox"/> Seismologist (explores earthquakes) |
| <input type="checkbox"/> Environmental Scientist (explores the environment) | <input type="checkbox"/> Volcanologist (explores volcanoes) |
| <input type="checkbox"/> Geologist (explores the earth) | <input type="checkbox"/> Wildlife Biologist (explores wild animals) |



3 Pick up equipment (10 points each)



How will the scientist use it?

How will the scientist use it?

How will the scientist use it?

How will the scientist use it?

4 Rack Up some Points!

Check off the points you earned.

Scientist 20

Equipment 10 10 10 10

TOTAL _____ points

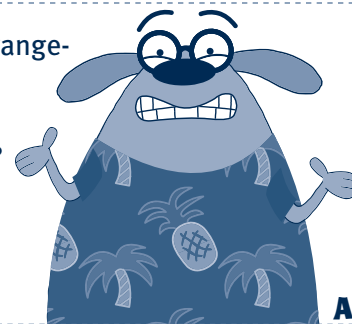


greendog

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Ruff's Problems master set (page 1 of 2)

Ruff was in Hawaii organizing a challenge for the show's contestants. Blossom made arrangements for him to take surfing lessons, attend a luau featuring pineapple-liver shakes, and go on a hiking tour of an active volcano! But when Ruff climbed to the top of the volcano, he froze in fear—what if poisonous gas and lava suddenly started spewing out?



HELP wanted! Hire a scientist to join Ruff on his volcano tour. Take along some equipment to explore volcanoes.

Henry sent Ruff on a trip to do research for a show about swamps. The swamp guide pointed out different types of native plants, and paused when they got to the Venus flytrap. She said it was a carnivorous plant that catches and digests animal prey. “ANIMAL PREY?!?!?!?” Ruff screamed in panic, “GET ME OUTTTTTTA HEEEEERE!!!!!!”



HELP wanted! Hire a scientist who knows what Venus flytraps eat. Pick up some equipment to examine carnivorous plants.

Ruff decided to go on a long camping trip and wondered what kind of weather he would face. Since he'd be out in the wilderness, he couldn't flip on his favorite TV weather report every morning. Would there be heavy winds? Scorching heat? Unbearable humidity? Even worse—would it rain cats and dogs?!



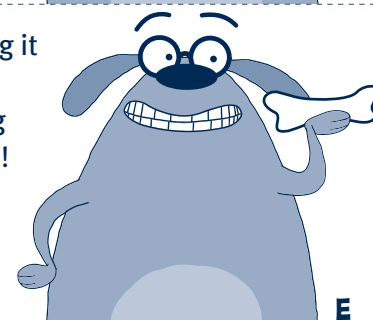
HELP wanted! Hire a scientist to give Ruff a crash course on weather prediction. What kind of equipment will they use?

Ruff was in a Hollywood director's office, trying to land a movie role (or, at the very least, a cinnamon roll). He fell asleep in the waiting room, and had a crazy dream about being trapped inside a gigantic milkshake-making machine. But when he woke up, he realized it wasn't just a dream—the building was really shaking!



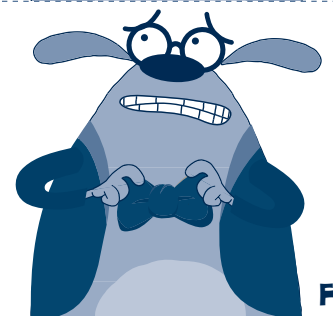
HELP wanted! Hire a scientist to tell Ruff what's causing the building to shake. Pick up some equipment to investigate what happened.

Ruff and Blossom were hiking in Montana when Ruff spotted a half-buried object. He dug it up, thrilled to discover a huge bone! “Hot diggity dog!” he cried, “I could gnaw on this tasty specimen for years!” Before he could sink his teeth into it, Blossom grabbed it, saying this was no ordinary bone—it was the kind that belongs in the Jurassic exhibit of a museum!



HELP wanted! Hire a scientist to help Ruff and Blossom look for more bones. Pick up some equipment they can use while exploring.

Ruff wanted to romance Charlene, the poodle next door, and finally win her over. He had everything he needed for a fancy, romantic dinner under the moonlight—flowers, soft music, and heart-shaped liver cupcakes. But there was one big problem. There was no moonlight—there was no moon whatsoever!



HELP wanted! Hire a scientist to help Ruff find out why he can't see the moon and when he'll see it again! Collect equipment for learning about the night sky.

Ruff liked the sound of the word *spelunking*. He had no idea what it meant, but it sure sounded fun! Soon, he found himself exploring a deep, dark cave—so *that* was what spelunking was all about! Ruff didn't know a stalactite from a stalagmite, a rock from a mineral, or much of anything about caves—but he was right about it being fun!

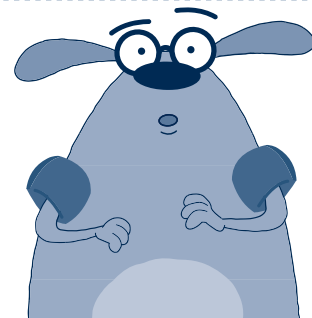
HELP wanted! Hire a scientist to tell Ruff all about the rock formations in the cave, and take along equipment to help them explore.



G

When Ruff was a puppy, he used to doggy-paddle in a stream near Grandma Ruffman's house. He loved to admire his reflection in the clear water and watch the frogs and sunfish play. But when he went back as a grown-up pooch to visit the stream, Ruff saw fewer creatures and noticed the water had an odd color and smell—could it be polluted?

HELP wanted! Hire a scientist to help Ruff find out what's wrong with the stream, and pick up equipment to test the water.



H

Ruff was thrilled to be invited along on a deep-sea submarine expedition by old Captain Saltydog. Their mission was to explore the ecosystems of dogfish and catsharks. WHAT?! Did somebody say CATSHARKS?! Ruff thought cats were bad enough, but the idea of catsharks made him shudder!

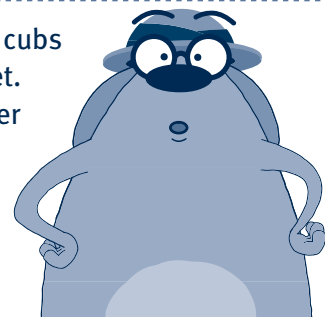
HELP wanted! Hire a scientist to help Ruff learn about life in the ocean, and pick up some equipment for his underwater journey.



I

While Ruff was on an African photo safari, he stumbled upon a litter of adorable cheetah cubs (yes, even a dog had to admit they were adorable!). They were mewling and seemed upset. Ruff didn't want to leave them—what if they needed his protection? But what if the mother cheetah came back . . . and decided Ruff would make a tasty lunch?!

HELP wanted! Hire a scientist to help Ruff observe the cubs, and take some equipment along to help with the situation.



J

Ruff decided it was time for a beauty makeover. He whipped up a cream made out of baby oil, hydrogen peroxide, coffee grounds, glue, and garlic paste. He covered himself in it from head to paw, convinced he'd soon have soft, silky fur. But the potion wouldn't wash off, and Ruff ended up a sticky, goopy, smelly mess!

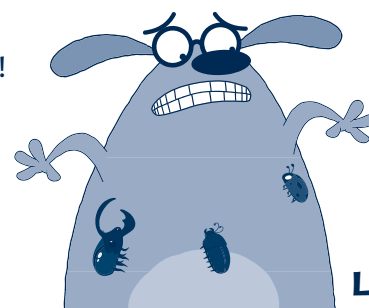
HELP wanted! Hire a scientist to safely remove the goop from Ruff, and pick up equipment to make a new mixture to undo the damage to his fur.



K

Ruff was reading a book about insects and learned that there are more than a *million* different species. That made Ruff pretty nervous—there were so MANY of these critters! And some had really odd names, like Ambush Bug, Spittle Bug, Ant Lion, and Stink Bug. He didn't know what to think—were they friend or foe, cute or creepy?

HELP wanted! Hire a scientist to tell Ruff all about insects, and pick up equipment so they can explore the ones living in Ruff's backyard.



L

scientists sets 1 and 2

set 1



Astronomer



Botanist



seismologist



Volcanologist



Entomologist



Environmental scientist



Meteorologist



Geologist



Marine Biologist



Wildlife Biologist



Paleontologist



chemist

set 2



Astronomer



Botanist



seismologist



Volcanologist



Entomologist



Environmental scientist



Meteorologist



Geologist



Marine Biologist



Wildlife Biologist



Paleontologist



chemist



Volcanologist explores volcanoes	Seismologist explores earthquakes	Botanist explores plant life	Astronomer explores the universe
Geologist explores the earth	Meteorologist explores weather	Environmental Scientist explores the environment	Entomologist explores insects
Chemist explores chemical reactions	Paleontologist explores prehistoric fossils	Wildlife Biologist explores wild animals	Marine Biologist explores ocean life

Volcanologist explores volcanoes	Seismologist explores earthquakes	Botanist explores plant life	Astronomer explores the universe
Geologist explores the earth	Meteorologist explores weather	Environmental Scientist explores the environment	Entomologist explores insects
Chemist explores chemical reactions	Paleontologist explores prehistoric fossils	Wildlife Biologist explores wild animals	Marine Biologist explores ocean life



animal tracking device



aquatic net



barometer



binoculars



binoculars



biohazard suit



camera



camera



climbing rope



computer



computer



crowbar



dissecting kit



diving gear



dynamite



field guide to insects



field guide to fossils



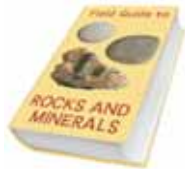
field guide to mammals



field guide to marine life



field guide to plants



field guide to rocks and minerals



flashlight



flashlight



forceps



funnel



GPS



GPS



harness



headlamp



heat-resistant gloves



helicopter



helmet



helmet



hiking boots



Hubble space telescope



insect aspirator

biohazard suit
protects against
dangerous chemicals
and gasses

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binoculars
magnifies distant
objects

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binoculars
magnifies distant
objects

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barometer
measures air pressure
to forecast weather

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aquatic net
catches aquatic life

Photo courtesy of Forestry Suppliers, Inc. 580018.

**animal tracking
device**
tracks animals in the
wild

Photo courtesy of Wildlife Materials, Inc.

crowbar
to pry something loose,
like a rock

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Computer
for collecting data and
conducting research

Photo courtesy of stock.xchng®

Computer
for collecting data and
conducting research

Photo courtesy of stock.xchng®

climbing rope
to climb mountains,
caves, trees, etc.

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camera
takes photographs

Photo courtesy of stock.xchng®

camera
takes photographs

Photo courtesy of stock.xchng®

**field guide to
mammals**
illustrated book of
mammals

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**field guide to
fossils**
illustrated book of
fossils

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**field guide to
insects**
illustrated book of
insects

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dynamite
to blow things apart,
like large rocks

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diving gear
to swim and breathe in
deep water

© 2008 Jupiterimages Corporation

dissecting kit
to cut apart and
examine organisms

Photo courtesy of Forestry Suppliers, Inc. 580018.

forceps
to pick up something
small

Photo courtesy of Forestry Suppliers, Inc. 580018.

flashlight
portable light

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flashlight
portable light

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**field guide to
rocks & minerals**
illustrated book of
rocks and minerals

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**field guide to
plants**
illustrated book of
plants

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© Jupiterimages Corporation

**field guide to
marine life**
illustrated book of
marine life

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**heat-resistant
gloves**
protects hands from
heat

Photo courtesy of Forestry Suppliers, Inc. 580018.

headlamp
hands-free flashlight

Photo courtesy of Forestry Suppliers, Inc. 580018.

harness
provides safety while
climbing

Photo courtesy of Forestry Suppliers, Inc. 580018.

GPS
instrument for
navigation

Photo courtesy of Forestry Suppliers, Inc. 580018.

GPS
instrument for
navigation

Photo courtesy of Forestry Suppliers, Inc. 580018.

funnel
for pouring substances
into containers

© 2008 Jupiterimages Corporation

insect aspirator
to suction up and
collect small insects

Photo courtesy of Forestry Suppliers, Inc. 580018.

**Hubble space
telescope**
large telescope that
records images in space

Photo courtesy of NASA

hiking boots
sturdy shoes for hiking
or for rough terrain

© 2008 Jupiterimages Corporation

helmet
head protection

© 2008 Jupiterimages Corporation

helmet
head protection

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helicopter
for transport to out-of-
the-way places

Photo courtesy of stock.xchng®





lightning detector



magnifying glass



microscope



microscope



mineral test kit



net



night vision goggles



outdoor gear



outdoor gear



PAPER and Pen



PAPER and Pen



Plant Press



rain gauge



respirator



rock pick



safety goggles



safety goggles



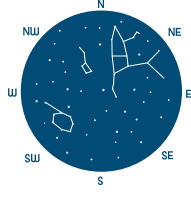
seismograph



shears



shovel



sky map



specimen containers



submarine



telescope



terrarium



test tubes



thermometer



toothbrush



tranquilizer darts



trap



underwater camera



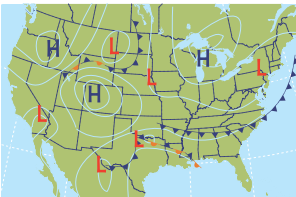
waders



water test kit



weather balloon



weather map



weather station

net

to catch birds, insects, or animals

Photo courtesy of Forestry Suppliers, Inc. 580018.

mineral test kit

identifies hardness and color of minerals

Photo courtesy of Forestry Suppliers, Inc. 580018.

microscope

magnifies objects too small to be seen by the naked eye

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microscope

magnifies objects too small to be seen by the naked eye

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magnifying glass

makes small objects easier to see

Photo courtesy of stock.xchng®

lightning detector

indicates lightning speed and severity

Photo courtesy of Ambient Weather®

plant press

flattens and preserves plants

Photo courtesy of Forestry Suppliers, Inc. 580018.

paper and pen

to record data and observations

© 2008 Jupiterimages Corporation

paper and pen

to record data and observations

© 2008 Jupiterimages Corporation

outdoor gear

for camping and hiking

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outdoor gear

for camping and hiking

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night vision goggles

to see in the dark

Photo courtesy of Rigel Optics, Inc.

seismograph

measures earthquakes

Photo courtesy of NOMIS Seismographs, Inc.

safety goggles

protect eyes

© 2008 Jupiterimages Corporation

safety goggles

protect eyes

© 2008 Jupiterimages Corporation

rock pick

breaks apart rock

Photo courtesy of Forestry Suppliers, Inc. 580018.

respirator

prevents inhaling poisonous gas

Photo courtesy of Forestry Suppliers, Inc. 580018.

rain gauge

measures the amount of rainfall

Photo courtesy of Ambient Weather®

telescope

makes stars and planets easier to see

Photo courtesy of stock.xchng®

submarine

takes scientists deep under the ocean

Photo by Woods Hole Oceanographic Institution

specimen containers

hold collected samples

Photo courtesy of Forestry Suppliers, Inc. 580018.

sky map

shows positions of the stars

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shovel

lifts and moves dirt, snow, etc.

Photo courtesy of Forestry Suppliers, Inc. 580018.

shears

for clipping samples, like plants

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trap

captures live animals

Photo courtesy of Forestry Suppliers, Inc. 580018.

tranquilizer darts

put animals temporarily to sleep

Photo courtesy of PNEU-DART, Inc.

toothbrush

brushes delicate surfaces

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thermometer

measures temperature

Photo courtesy of Forestry Suppliers, Inc. 580018.

test tubes

hold material for testing or experiments

Photo courtesy of stock.xchng®

terrarium

holds small plants or animals

Photo courtesy of Sciencelabs.com

weather station

records data about the weather

Photo courtesy of Ambient Weather®

weather map

shows weather conditions

© 2008 WGBH Educational Foundation

weather balloon

carries weather tools into the sky

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water test kit

tests water quality

Photo courtesy of Forestry Suppliers, Inc. 580018.

waders

waterproof gear

Photo courtesy of Forestry Suppliers, Inc. 580018.

underwater camera

takes photographs under water

Photo courtesy of Forestry Suppliers, Inc. 580018.

