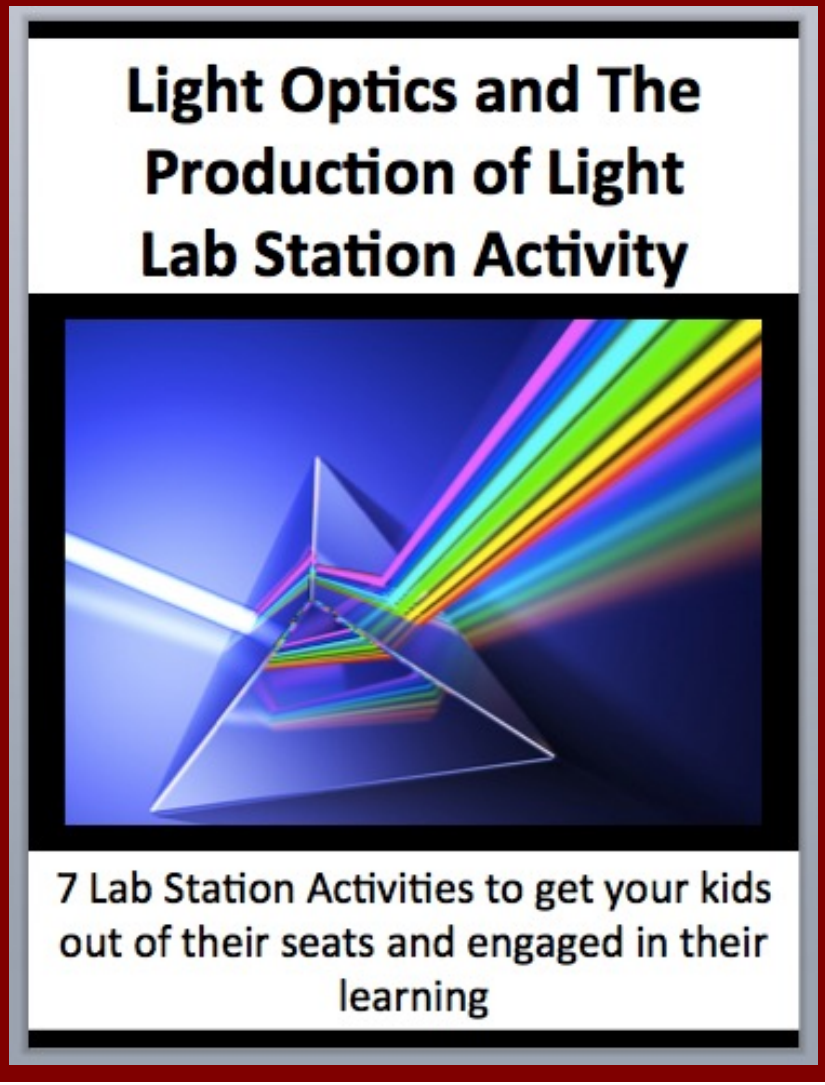
Light Optics and its Production
Interactive Lab Station Activity



Praise from lab station buyers

- "LOVE LOVE LOVE!!!"
- "Wow. Simply amazing!"
- "My students absolutely loved this and begged for more"
- "I cannot say enough good things about these lab stations. LOVE THEM. Perfect for a class period or when you don't want to set up a wet lab. I just adore these."
- "Students loved and stations and I loved the learning!!"
- "Fantastic resource! My go to TPT user for science!!"
- "THIS WAS AN AWESOME ACTIVITY!"
- "Used this today and my freshman LOVED it! The lesson provides opportunities for the students to both be creative and demonstrate learning. They were engaged the whole time and passed in quality work. Will definitely be looking for your other station activities to use in my classroom."
- "Awesome resource. I am using this instead of a paper test. Much more inclusive learning!

Interactive Lab Station Activity

Little to no prep, just print and go

7 Engaging Lab Stations

Each station tests your students' knowledge and provides a fantastic learning opportunity for your kids to learn through assessment

1. Get Hands-On
2. Research
3. Explain Yourself
4. Applicability Reading
5. Test Your Knowledge
6. Learn From The Expert
7. Become the Question Master

Save your time by utilizing dry labs that are all set to go. Just print and place them around the room

Station 1

Get Hands-On – Draw and label the
moon as
What cau
moon?

Station 2

Research – Using your search engine research: What are some common traits of
example
provides
sure you

Station 3

Explain yourself – Write down an opinion to the following question in paragraph form. You are **NOT** permitted to use your device.

, what
sure y

Station 4
Rest Station

Use this time wisely.
Complete any station work not yet finalized.

Station 5

Applicability Reading – Read the following
answer t
found be
Reading

Station 6

Test Your Knowledge – Answer the following 5 multiple choice
ques
expl
cam

Station 7

Learn from the expert – Using a classroom computer or your own device, watch the following video clip and answer the associated questions.
You may sto
often as you

Station 8
Rest Station

Use this time wisely.
Complete any station work not yet finalized.

Station 9

Become The Question Master – You must create 2 multiple-choice questions, 2 true/false questions and 1 short answer question. You must also supply the answers and you may not re-use any of the questions you have seen in this lab.

Save your time by utilizing dry labs that are all set to go. Just print and place them around the room

Applicability Reading – Why is Biodiversity in Crisis?

Instructions: Read the following information article and answer the associated questions found below in the *Applicability Reading* section of your passport.

The escalating extinction crisis shows that the diversity of nature cannot support the current pressure that humanity is placing on the planet. Every day species' extinctions are continuing at up to 1,000 times or more the natural rate. The extinction of individual species, but also habitat destruction, land conversion for agriculture and development, climate change, pollution and the spread of invasive species are only some of the threats responsible for today's crisis.

- Coral reefs provide food, storm protection, jobs, recreation and other income sources for more than 500 million people worldwide yet 70% of coral reefs are threatened or destroyed.
- 18,788 species out of 52,017 so far assessed are threatened with extinction.
- Of the world's 5,490 mammals, 78 are Extinct or Extinct in the Wild, with 188 Critically Endangered, 540 Endangered and 492 Vulnerable.
- 1,895 of the planet's 6,285 amphibians are in danger of extinction, making them the most threatened group of species known to date.

With the current biodiversity loss, we are witnessing the greatest extinction crisis since the dinosaurs disappeared from our planet 65 million years ago. Not only are these extinctions irreversible, but they also pose a serious threat to our health and wellbeing.

What are the main threats to biodiversity?
Threats to biodiversity are numerous and human activity is responsible for most of them.

- Habitat loss and degradation affects 86% of all threatened birds, 86% of the threatened mammals assessed and 88% of the threatened amphibians.
- Introductions of Invasive Alien Species that establish and spread outside their normal distribution. Some of the most threatening invasive species include cats and rats, green crabs, zebra mussels, the African tulip tree and the brown tree snake. Introductions of alien species can happen deliberately or unintentionally, for example, by organisms "hitch-hiking" in containers, ships, cars or soil.
- Over-exploitation of natural resources. Resource extraction, hunting, and fishing for food, pets, and medicine.
- Pollution and diseases. For example, excessive fertilizer use leads to excessive levels of nutrients in soil and water.
- Human-induced climate change. For example, climate change is altering migratory species patterns, and increasing coral bleaching.

What about climate change?
Biodiversity and climate change are very closely related issues. Biodiversity is strongly affected by climate change so we need to make additional efforts to minimize the negative influence of other factors, such as over-exploitation, habitat loss and fragmentation, pollution, and the spread of invasive alien species. This way we can ensure that ecosystems are less vulnerable and more resilient to the increasing threat posed by climate change. But climate change can also largely benefit from conserved biodiversity and particularly healthy ecosystems when these are placed at the very centre of the efforts to tackle climate change.

Learn From The Expert

Instructions: Go to **https://goo.gl/sLhAjt** and watch the video. While you are watching the video, answer each question and place your answer in the *Learn From The Expert* section of your passport. You may re-watch the video as many times as you like in the allotted time. Furthermore, you may re-watch the video while you are at one of the *work stations* so make sure you record the URL on your passport.

1. What percentage of biodiversity loss is caused by Invasive Species?
2. What is the reproductive characteristic common to Invasive Species?
3. What is probably the most widely known case of Invasive Species? Why were they originally brought there?
4. What was the transportation method for the spread of the Black Rat?
5. Invasive Species don't always play a negative role. Provide one example of an invasive species that was beneficial.

Test Your Knowledge

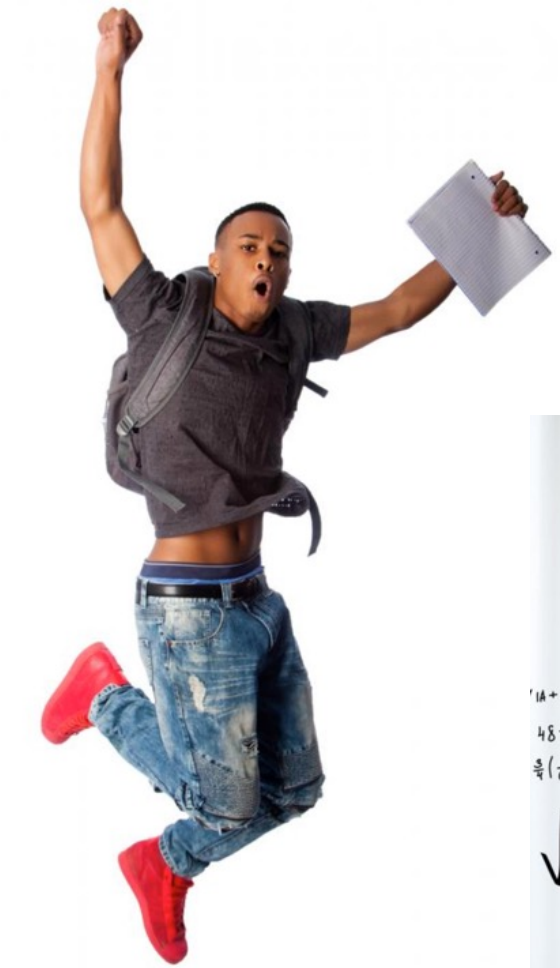
Instructions: Choose the correct answer and place it in the *Test Your Knowledge* section of your passport. Follow the answer with an explanation for how/why you choose it.

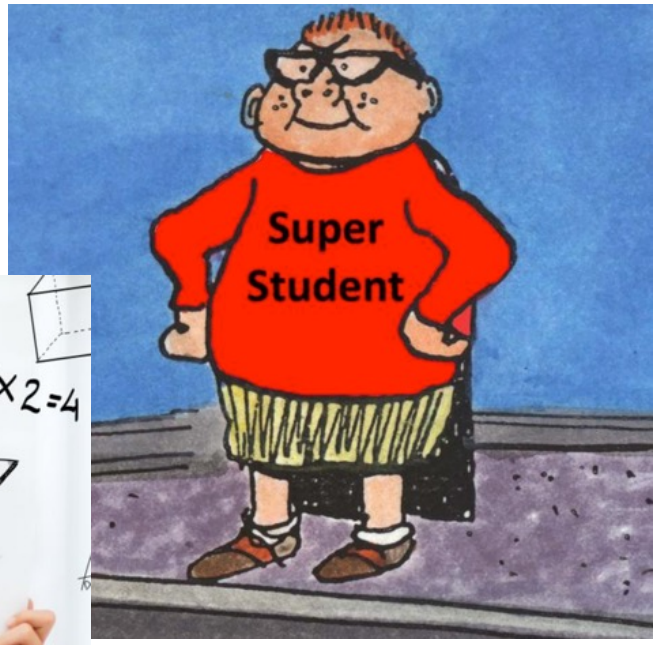
1. Biodiversity is measured by:
   a) counting the number of animals of a determined specie.
   b) counting the number of species in a specific habitat or ecosystem.
   c) counting the number of masculine species in a specific habitat or ecosystem.
   d) counting the number of feminine species in a specific habitat or ecosystem.
   e) none of the above.
2. The human species depends on biodiversity for its survival because:
   a) it cleans the air we breathe.
   b) it produces CO_2.
   c) it produces waste.
   d) it creates water.
   e) it cleans our circulatory system.
3. Vulnerable species are at risk because:
   a) they are close to extinction on a continent.
   b) they are extinct.
   c) of the increasing number.
   d) of the declining number.
   e) they are close to extinction on a country.
4. Native species:
   a) are found in an area as a result of natural processes only.
   b) are found in an area as a result of artificial processes only.
   c) can introduce diseases previously found in other regions or countries.
   d) reduce the water quality.
   e) reduce the beauty of the landscape.
5. Invasive species can be controlled by:
   a) bringing in a species from another location that can be used to hunt and kill them.
   b) bringing in similar species.
   c) bringing in a species from the hometown of the invasive species.
   d) altering the ecosystem.
   e) introducing diseases.

If you'd like to download a complete lab station to really see what they look like, please visit the link the below

http://bit.ly/TWF-Lab-Station

Create engagement and let them reach their potential





Incorporate Technology and Increase Collaboration