TROUT IN THE CLASSROOM

A Trout's Life Cycle

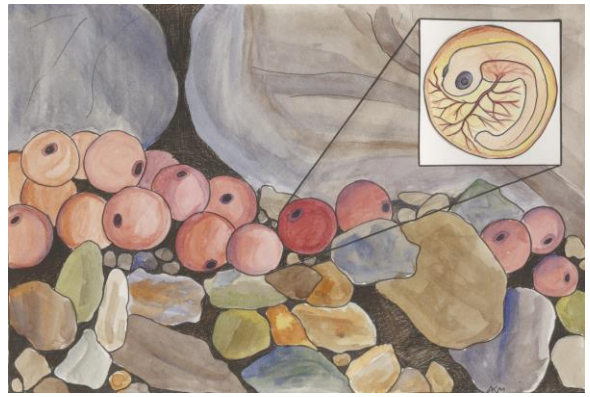
NYC Environmental Protection

TROUT UNLIMITED

Keys to a Successful Trout Life Cycle

- Trout are an ***indicator species*** meaning that studying trout can inform scientists and stakeholders about water quality and health.

- Here are some of the conditions a trout needs for a successful life cycle:
  - **Cold**, preferably under 60 degrees Fahrenheit (19 degrees Celsius)
  - **Clean**, since they are sensitive to pollution and nutrients
  - **Clear**, with minimal turbidity since they are sensitive to sediment
  - Other conditions: High dissolved oxygen (6+ parts per million), and diverse and connected habitat



So, what are the stages of a trout's life cycle?

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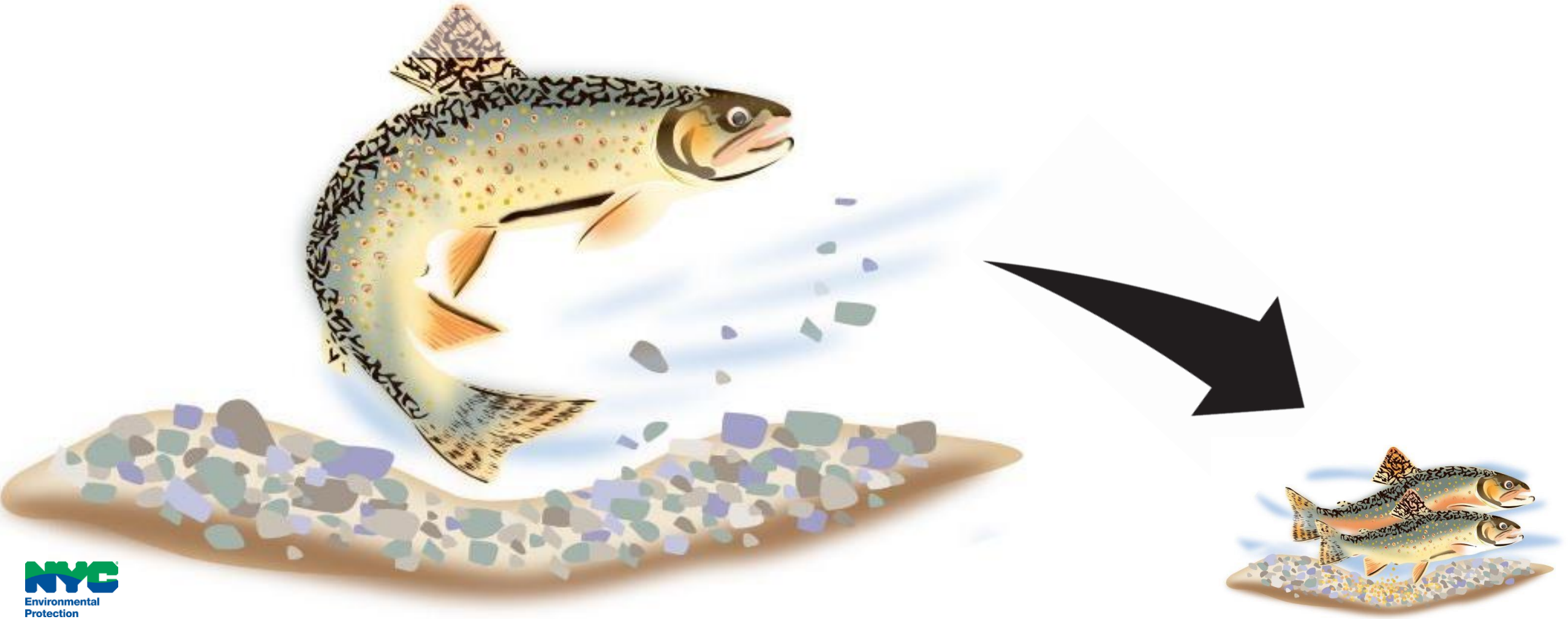
1. Adult Female Builds a Redd (a nest)

Season: Fall



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2. Spawning

Season: Fall

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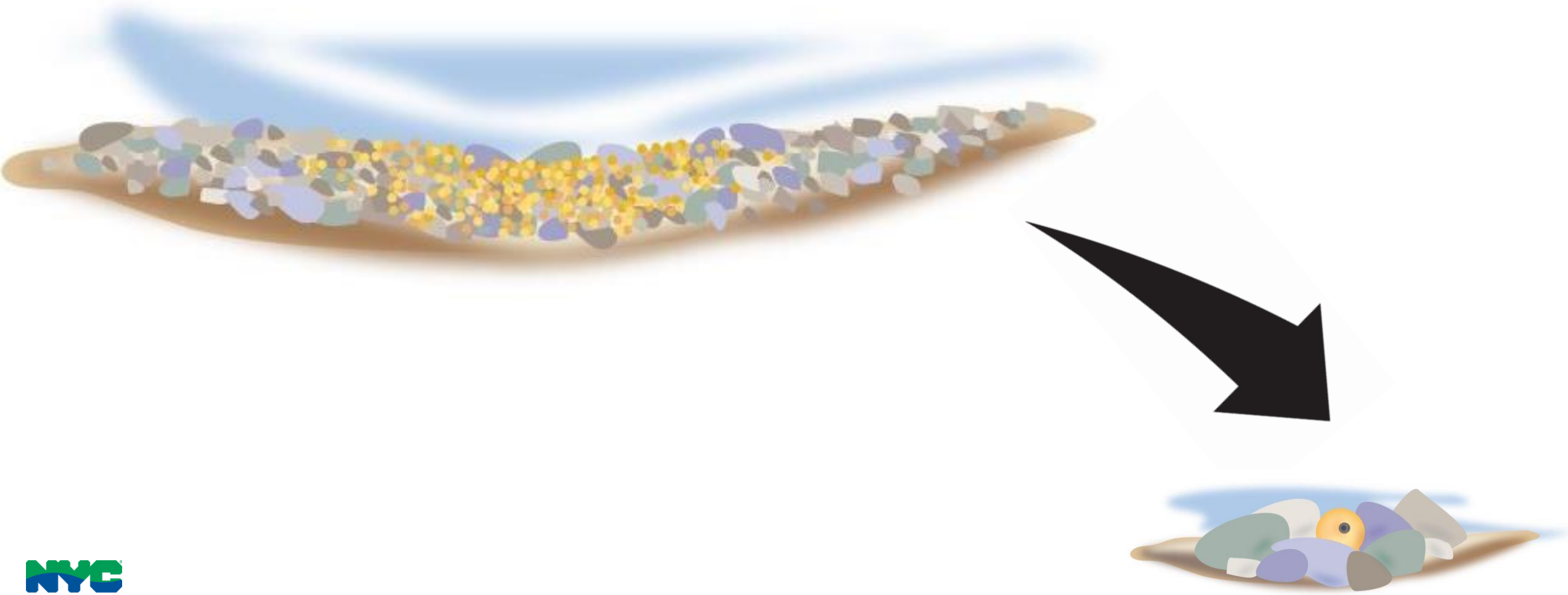
3. Egg Development

Season: Winter



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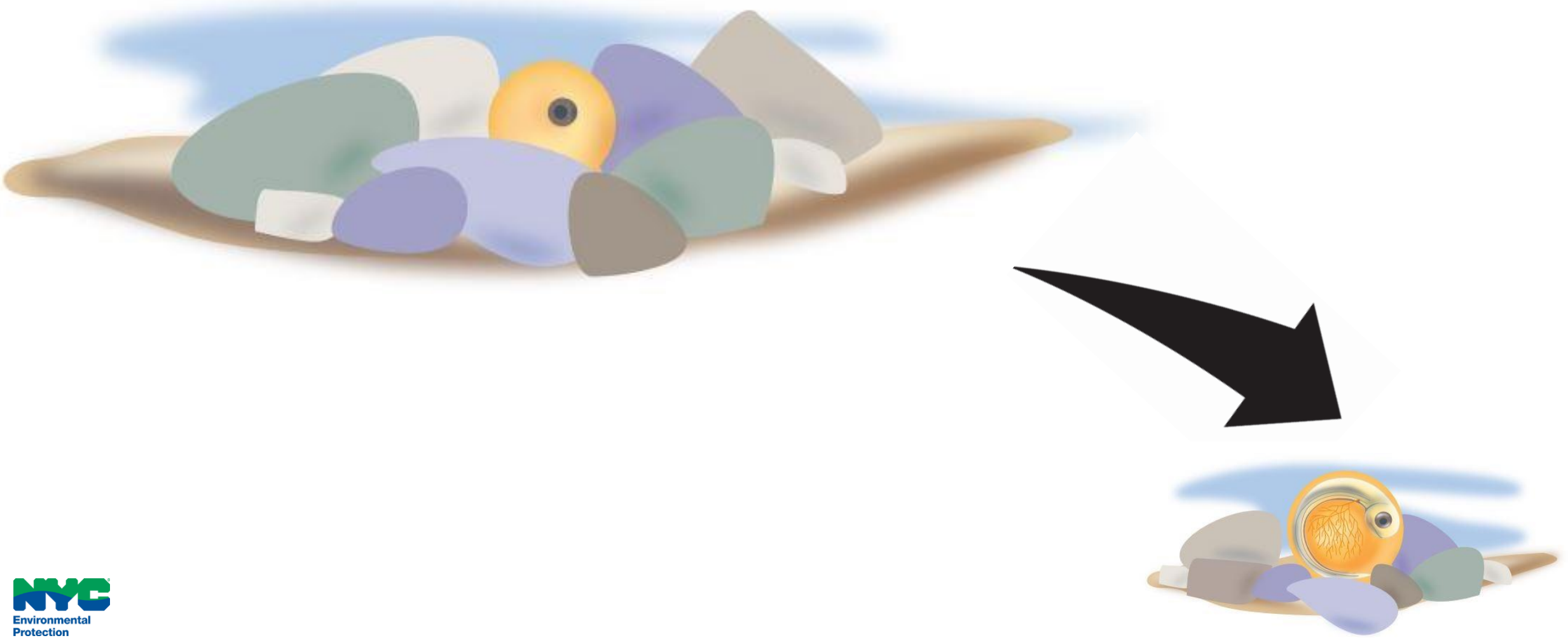
4. Eyed Egg

Season: Fall/Winter (2 weeks from spawning)



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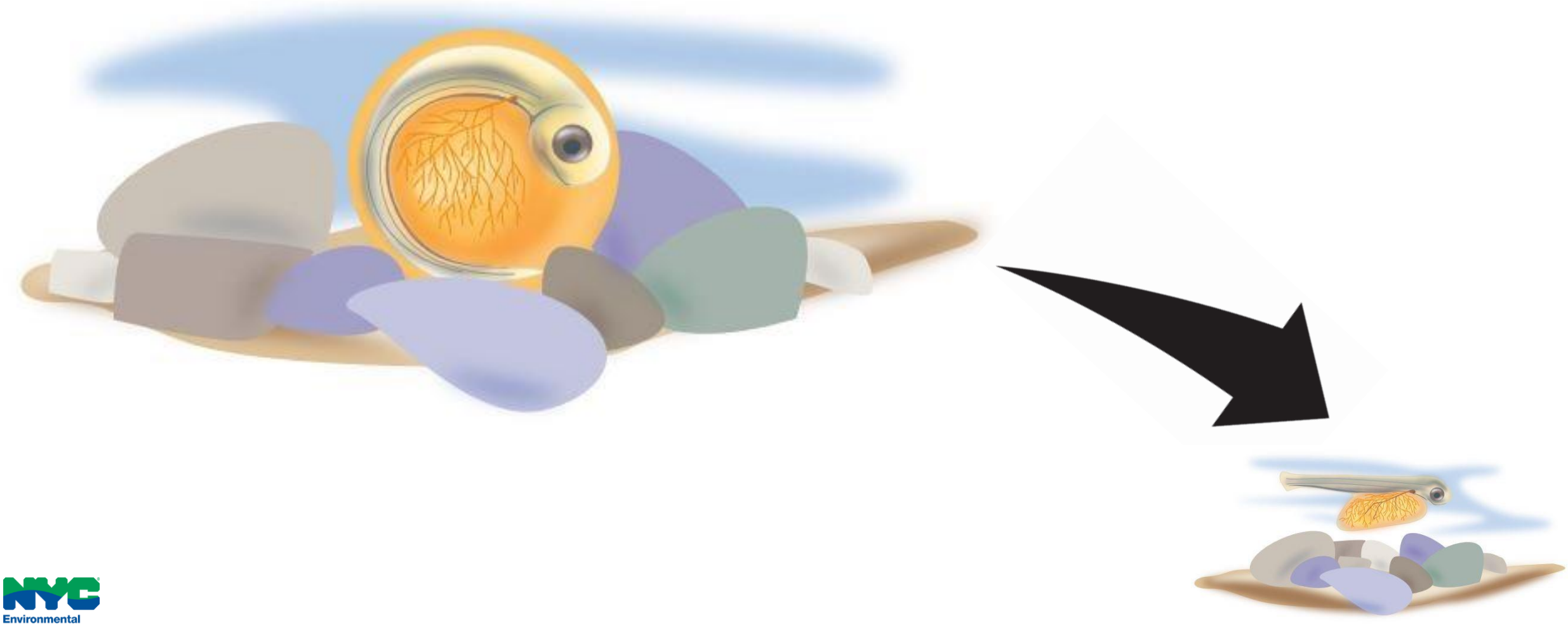
5. Embryo

Season: Winter (60 - 100 days)



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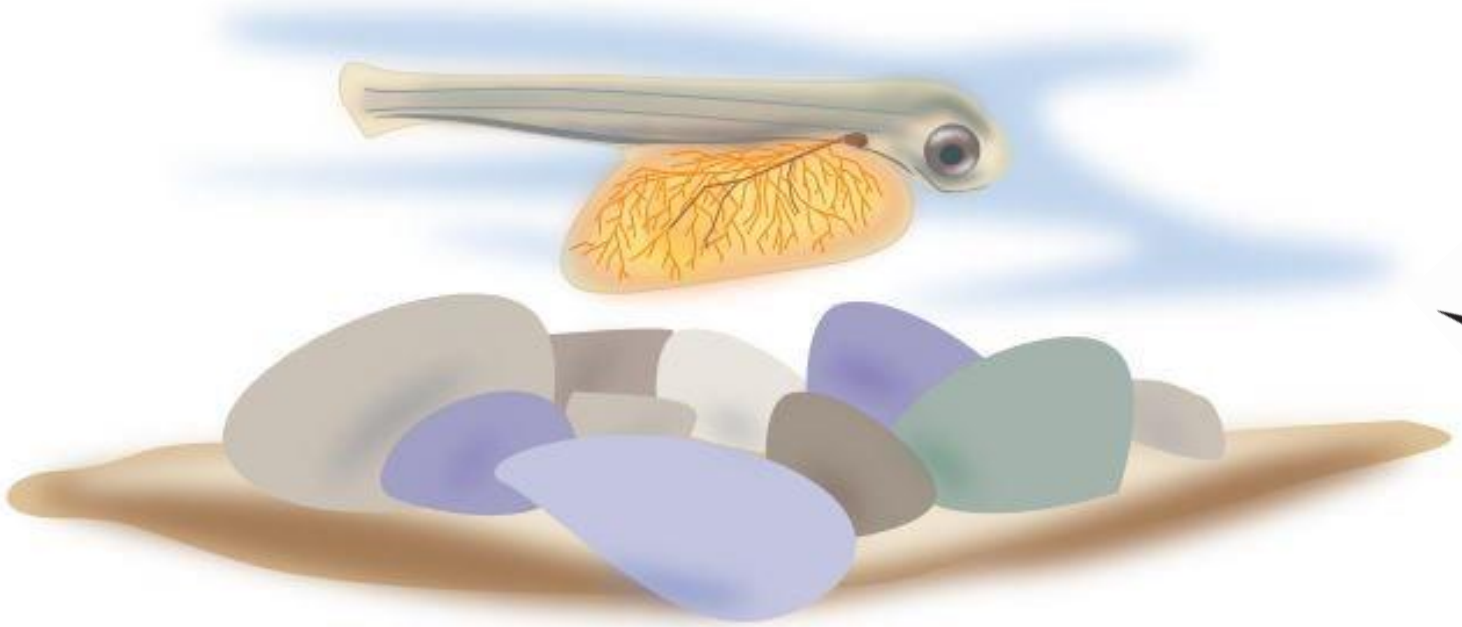
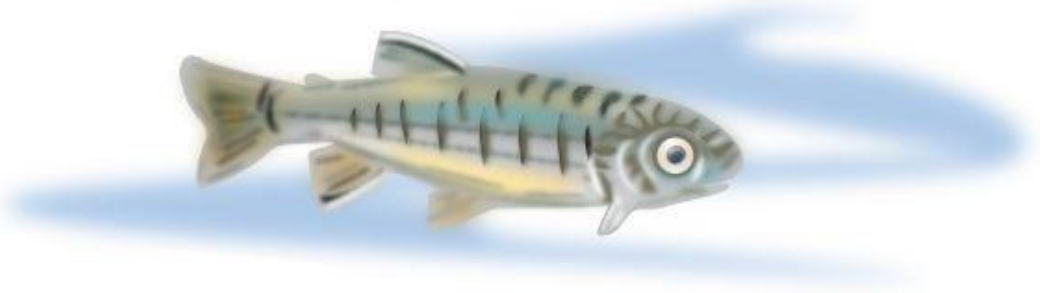
6. Alevin

Season: Spring (14 – 30 days)





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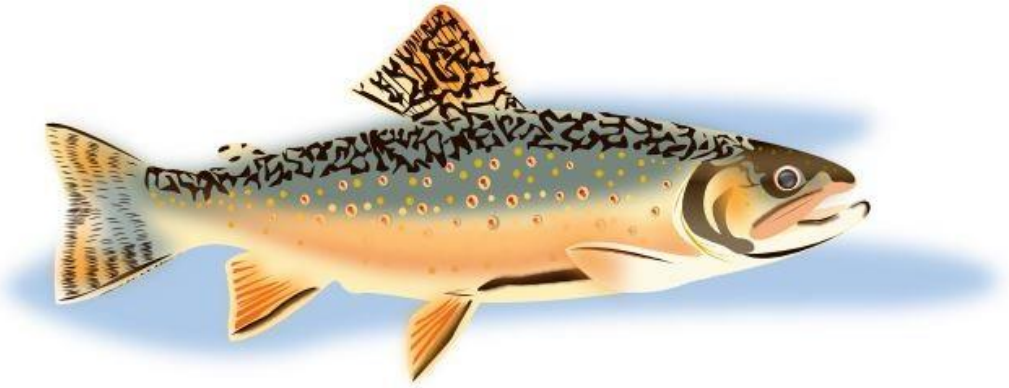
6. Fingerling

Season: Spring (several months)



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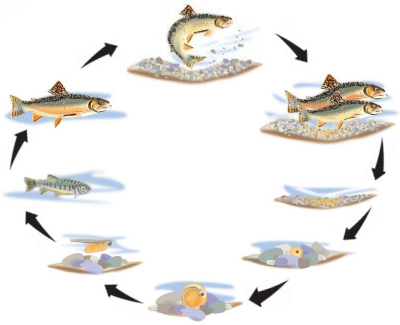
6. Adult Trout

Spring (2-3 years)

In streams, adult brook trout are typically between 9-15 inches and can weigh 1-5 pounds! In lake environments, they can grow to over 2 feet and weigh up to 15 pounds!



The Cycle Continues!

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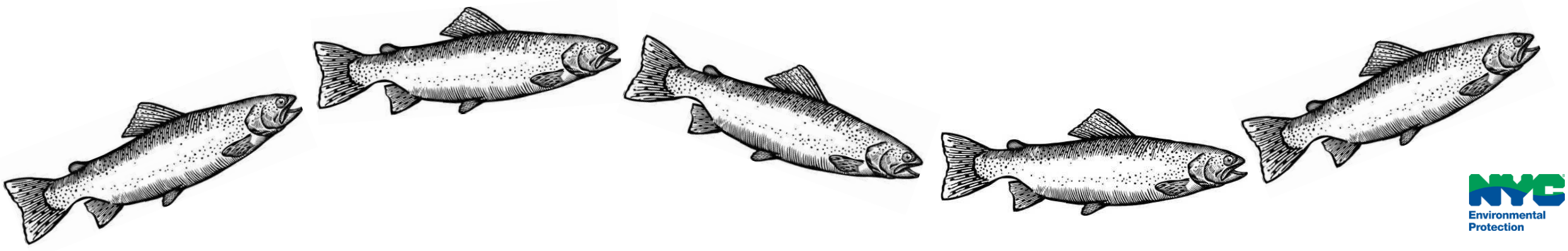
Trout Life Cycle and Migration

Some trout migrate, but not all do –
Why might a trout migrate? Why would they stay in one place?

The trout that do migrate are **Anadromous**,
what do you think **Anadromous** might mean?



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Trout Life Cycle and Migration

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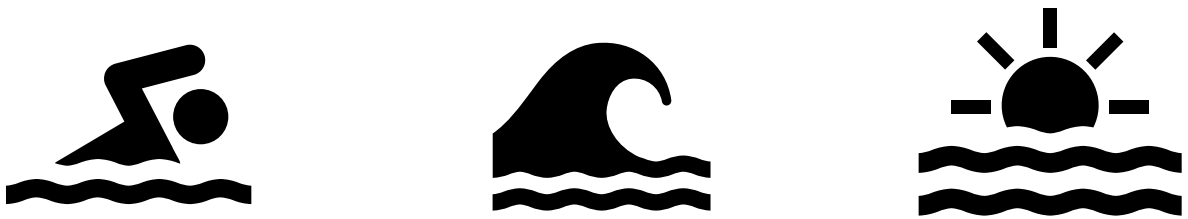

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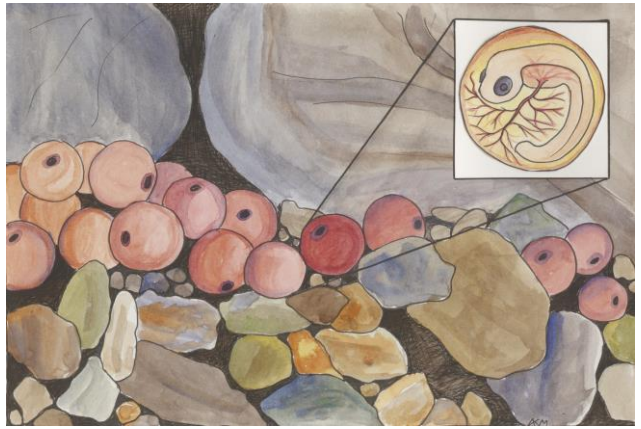
Trout Life Cycle and Migration

Anadromous trout hatch in a river, migrate to the sea, and return to the river to spawn.



Hatch in freshwater river

Migrate to sea

Return to home river to spawn

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Trout Life Cycle and Migration

Of these three NY trout species,
which do you think are Anadromous?

Brown Trout

Rainbow Trout

Brook Trout

What adaptations might a trout need to survive in a river and a sea?

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New York's Migratory Trout

Brown Trout
(Sea Trout)

- Can be **anadromous**, but most migrate in freshwater before returning home to spawn. Trout who migrate only in freshwater migration are called **potamodromous**.
- **Fun Fact:** Brown trout are one of the most genetically diverse vertebrates in the world – they have almost twice as many chromosomes as a human!

Rainbow Trout
(Steelhead Trout)

- The difference between migratory Steelhead and resident Rainbow Trout can be spotted in their scales, or the shape of their bodies.
- **Fun Fact:** Rainbow Trout are native to the Pacific coast. They were introduced to NY in the 1870s and have now been introduced to every continent except for Antarctica!

Brook Trout
(Sea Run Brook Trout/Salters)

- Since they are sensitive to water temperature and dissolved oxygen, brook trout often migrate to find habitats that meet their ideal conditions. They are often **potamodromous** vs. anadromous.
- **Fun Fact:** Brook trout are the official state freshwater fish for nine separate states, including New York!

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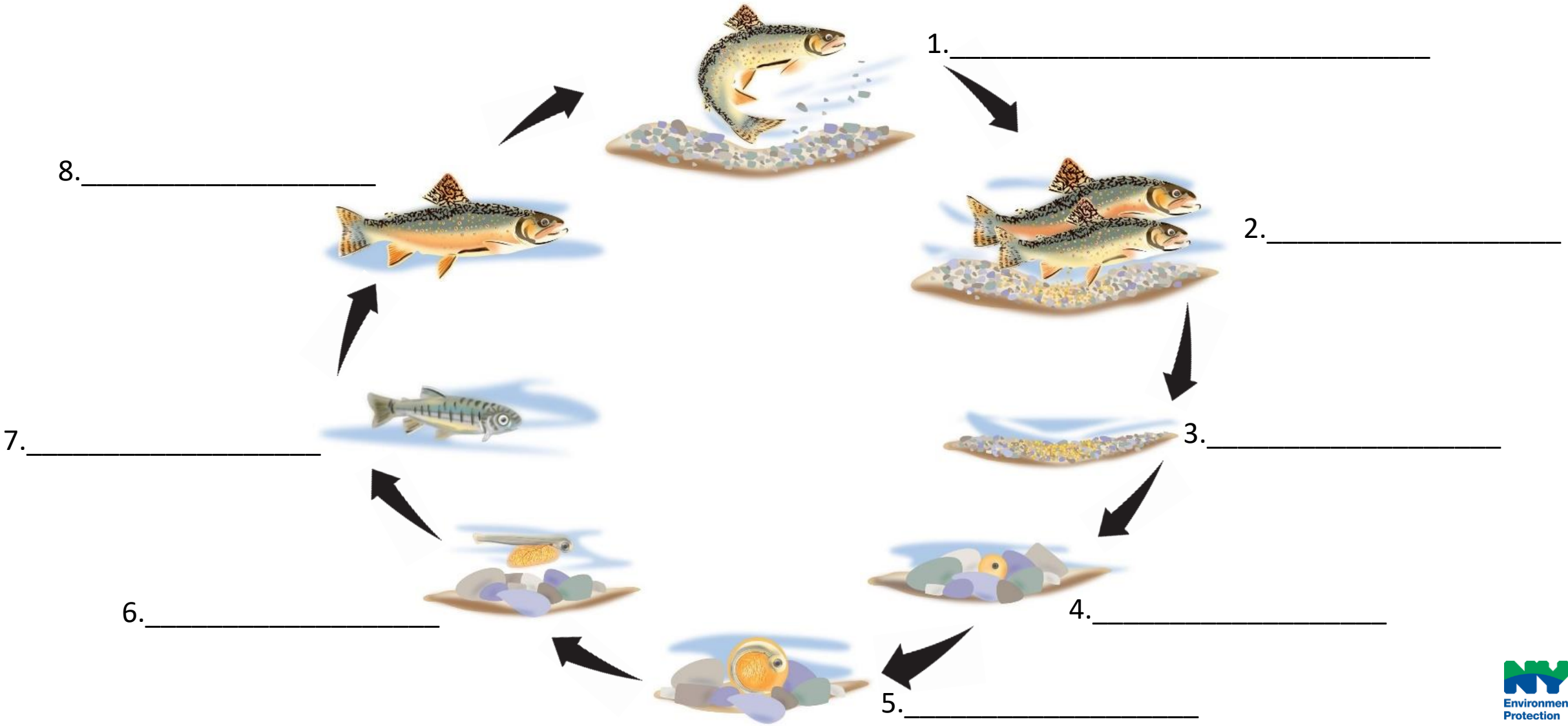
Can you label the Trout Life Cycle?



1._____

2._____

3._____

4._____

5._____

6._____

7._____

8._____

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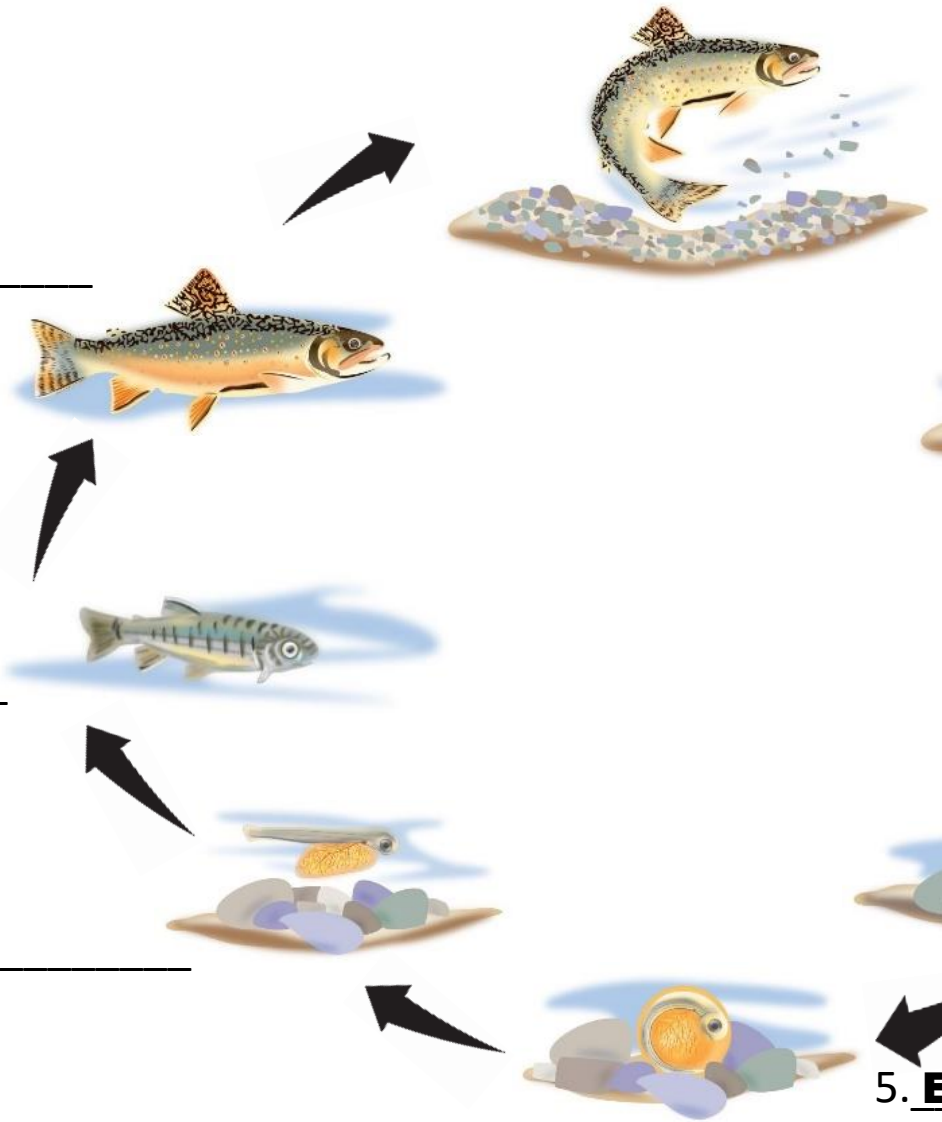
Can you label the Trout Life Cycle?



1. Adult Female Builds a Redd
2. Spawning
3. Egg Development
4. Eyed Egg
5. Embryo
6. Alevin
7. Fingerling
8. Adult Trout

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