

**INVESTIGATION QUESTION**

How does the structure of a seed compare to a spore, and why was the evolution of seeds such a turning point for plant life in the Devonian Period?

**HYPOTHESIS**

*Hint: try writing it as "If \_\_\_\_\_, then \_\_\_\_\_, because \_\_\_\_\_."*

**SPORE VS. SEED COMPARISON TABLE**

| <b>Feature</b>                  | <b>Spore</b> | <b>Seed</b> |
|---------------------------------|--------------|-------------|
| Needs moisture to germinate?    |              |             |
| Can survive dry conditions?     |              |             |
| Has a protective coat?          |              |             |
| Carries food supply for embryo? |              |             |
| Can travel long distances?      |              |             |
| Tied to wet environments?       |              |             |

## OBSERVATION TABLE

| Condition                   | Observation (start) | Observation (end) |
|-----------------------------|---------------------|-------------------|
| Spores on damp paper towel  |                     |                   |
| Spores on dry paper towel   |                     |                   |
| Seed on dry paper towel     |                     |                   |
| Seed sealed in zip-lock bag |                     |                   |

**ANALYSIS**

*What did the moisture test show about the difference between spores and seeds? How does the tough coat of a seed change where a plant can live and reproduce?*

**CONCLUSION**

*Before seeds evolved, even the tall Devonian trees were tied to wet environments for reproduction. How did seeds change that? Where could plants go that they could not go before?*

**CONNECT IT**

*The tetrapod transition and the seed revolution both happened during the Devonian Period. What do these two events have in common? Why do you think both happened during this same window of time rather than millions of years apart?*

**THINK FURTHER**

*Seeds were just the beginning. Later, flowering plants evolved fruit surrounding the seed, which animals could eat and carry away. How did adding fruit to the equation change the relationship between plants and animals? What advantage did fruit-bearing plants have over plants that just dropped their seeds on the ground?*