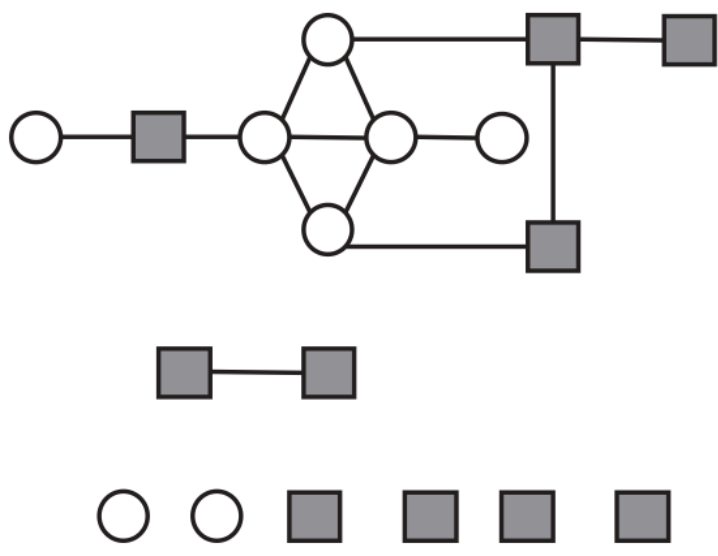


Epidemics on Networks

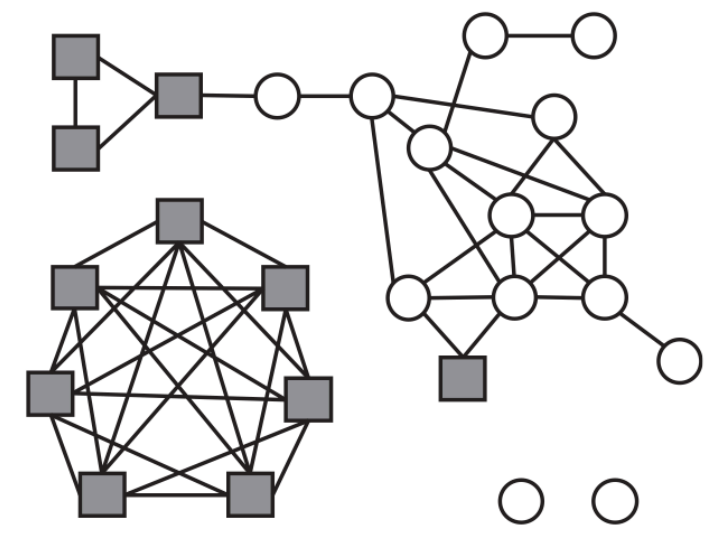
Supporting material for:

Kucharski A et al. (2017) Disease dynamics: understanding the spread of diseases. *Science in School* **40**: 52–56. www.scienceinschool.org/2017/issue40/diseasedynamics

Social networks



Age 4-5

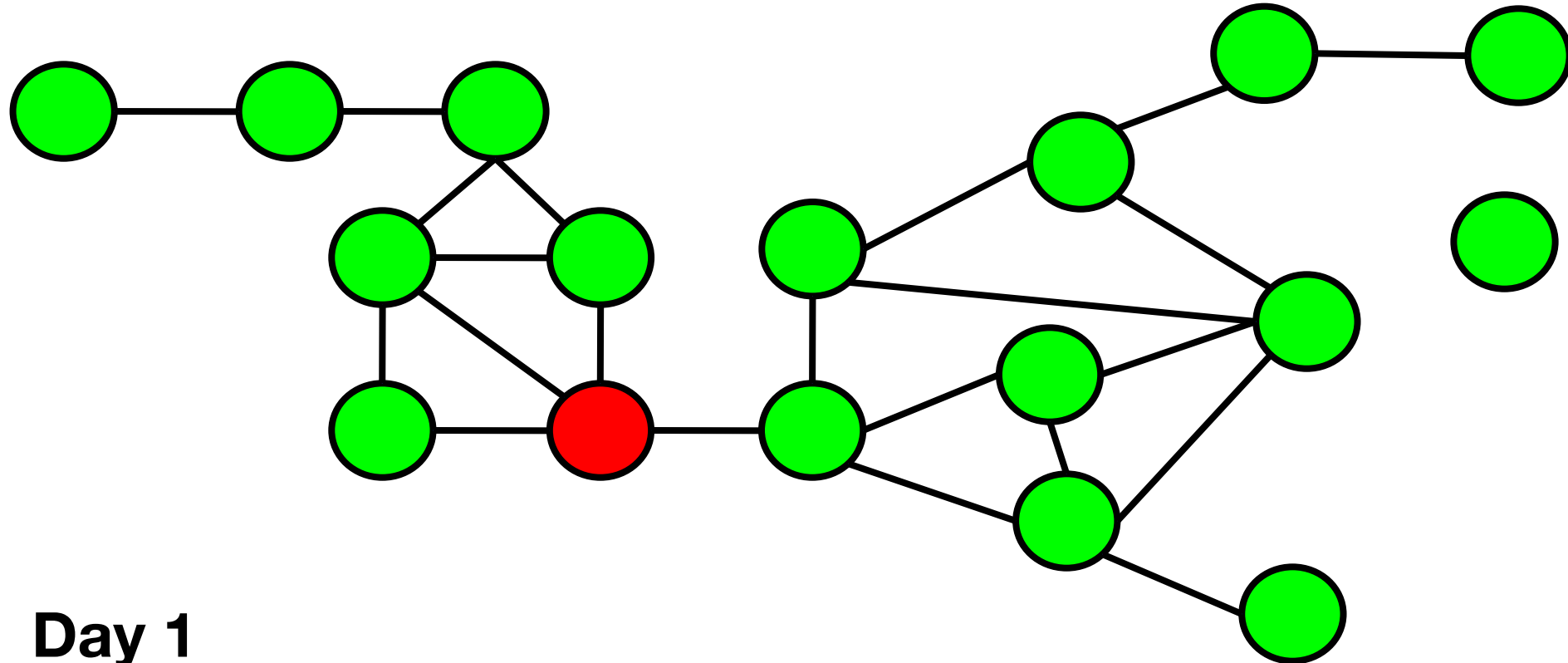


Age 10-11

Supporting material for:

Kucharski A et al. (2017) Disease dynamics: understanding the spread of diseases. *Science in School* 40: 52-56. www.scienceinschool.org/2017/issue40/diseasedynamics

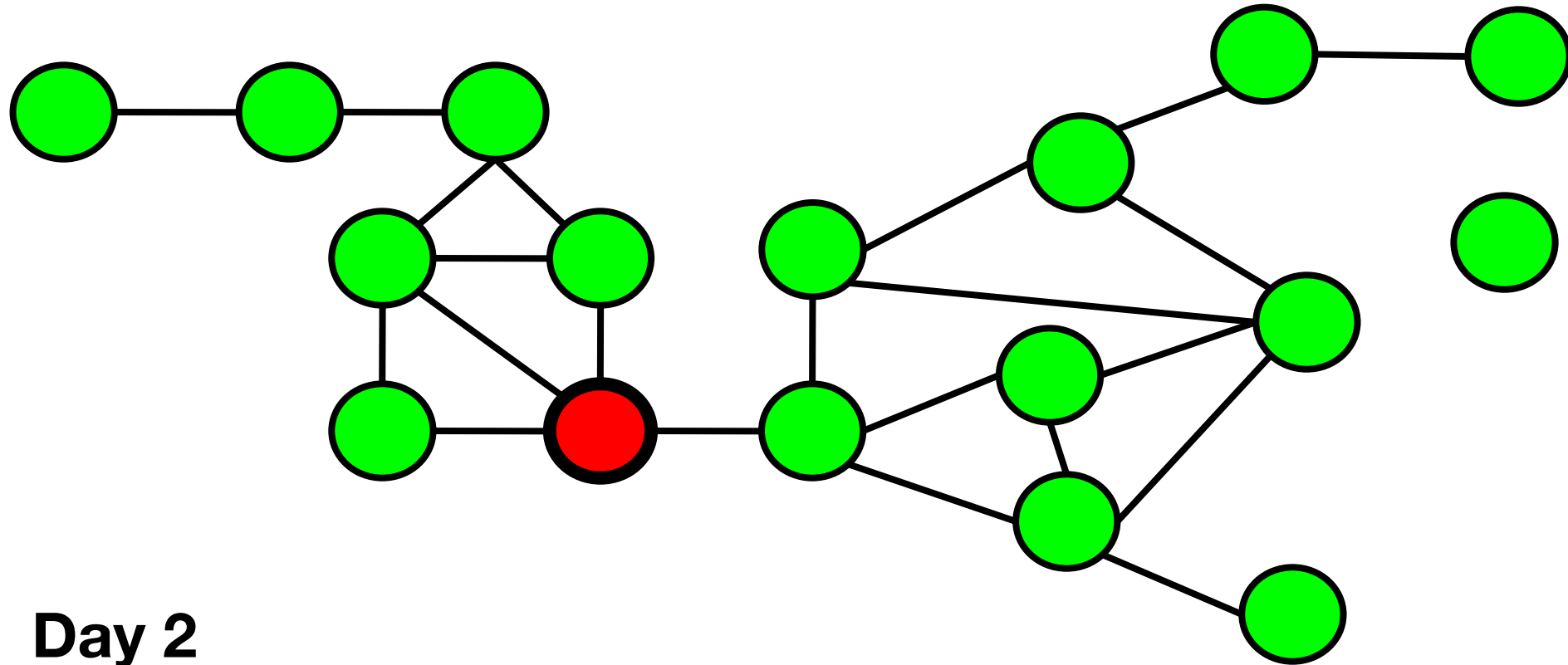
How does an epidemic spread on a network?



Day 1

Everyone starts off **susceptible**, apart from one **infected** person

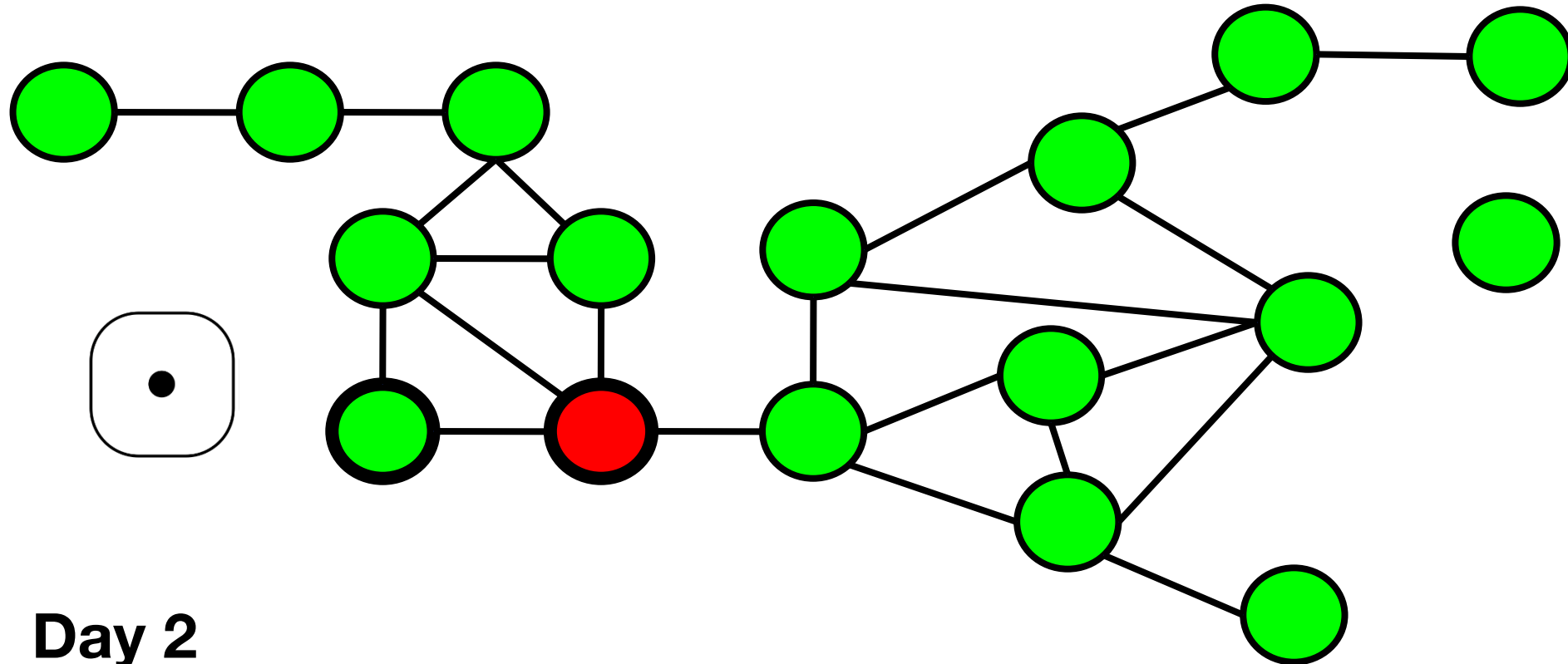
How does an epidemic spread on a network?



Day 2

- Go round infected person's contacts in turn

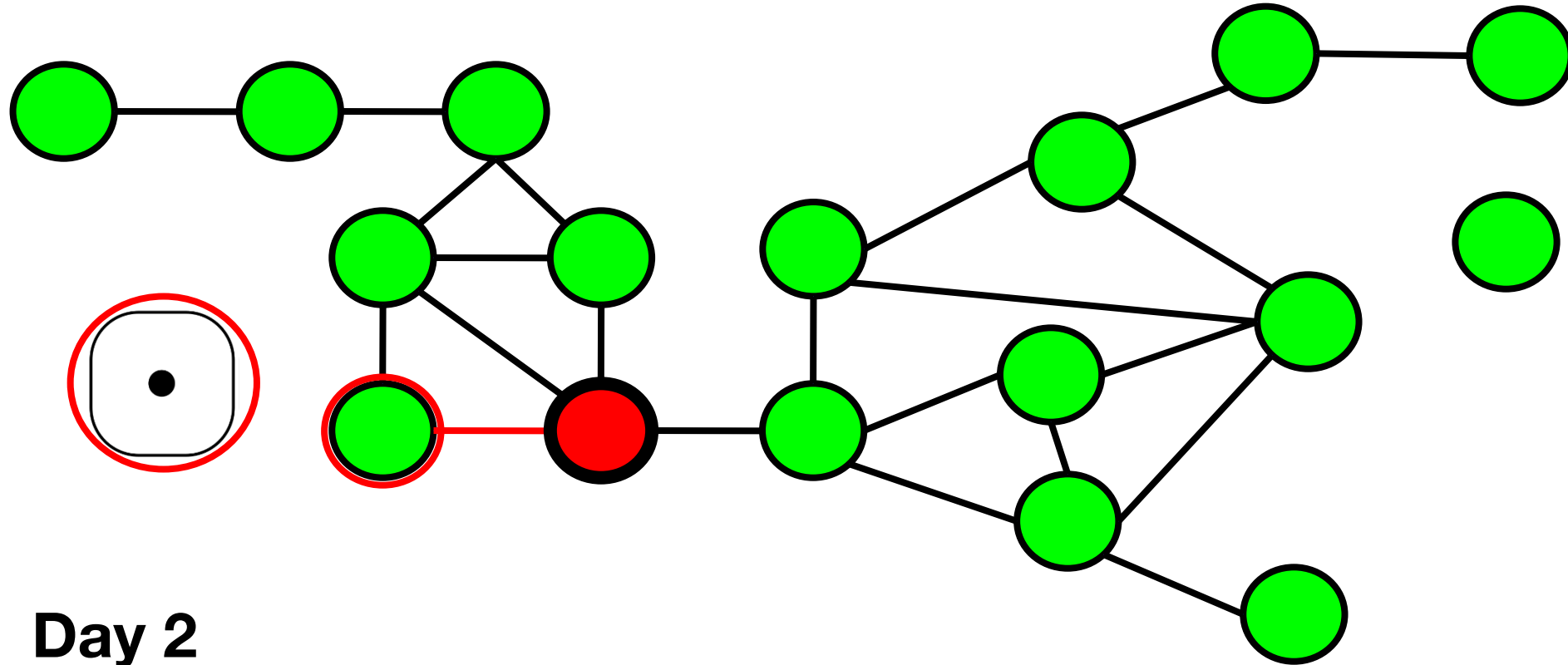
How does an epidemic spread on a network?



Day 2

- Go round infected person's contacts in turn
- Roll dice. If number is 1 or 2, infect that person

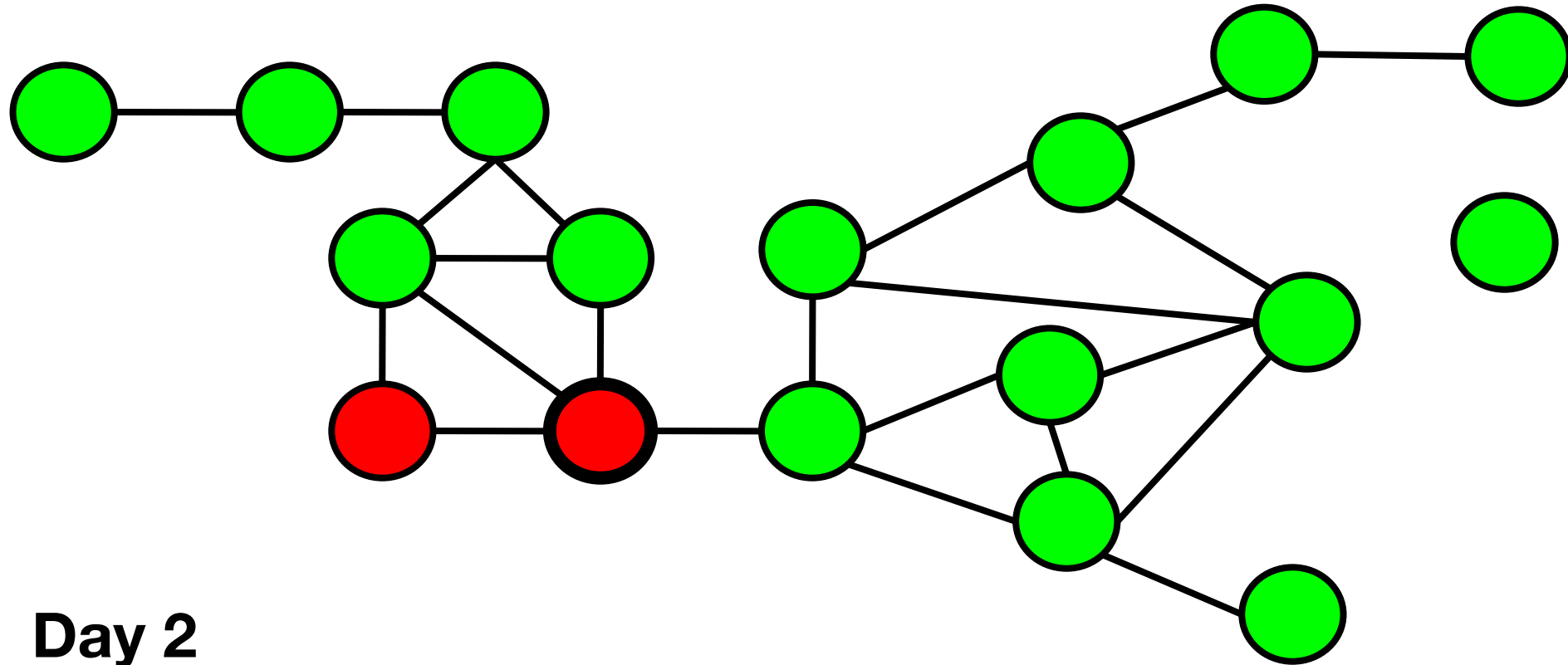
How does an epidemic spread on a network?



Day 2

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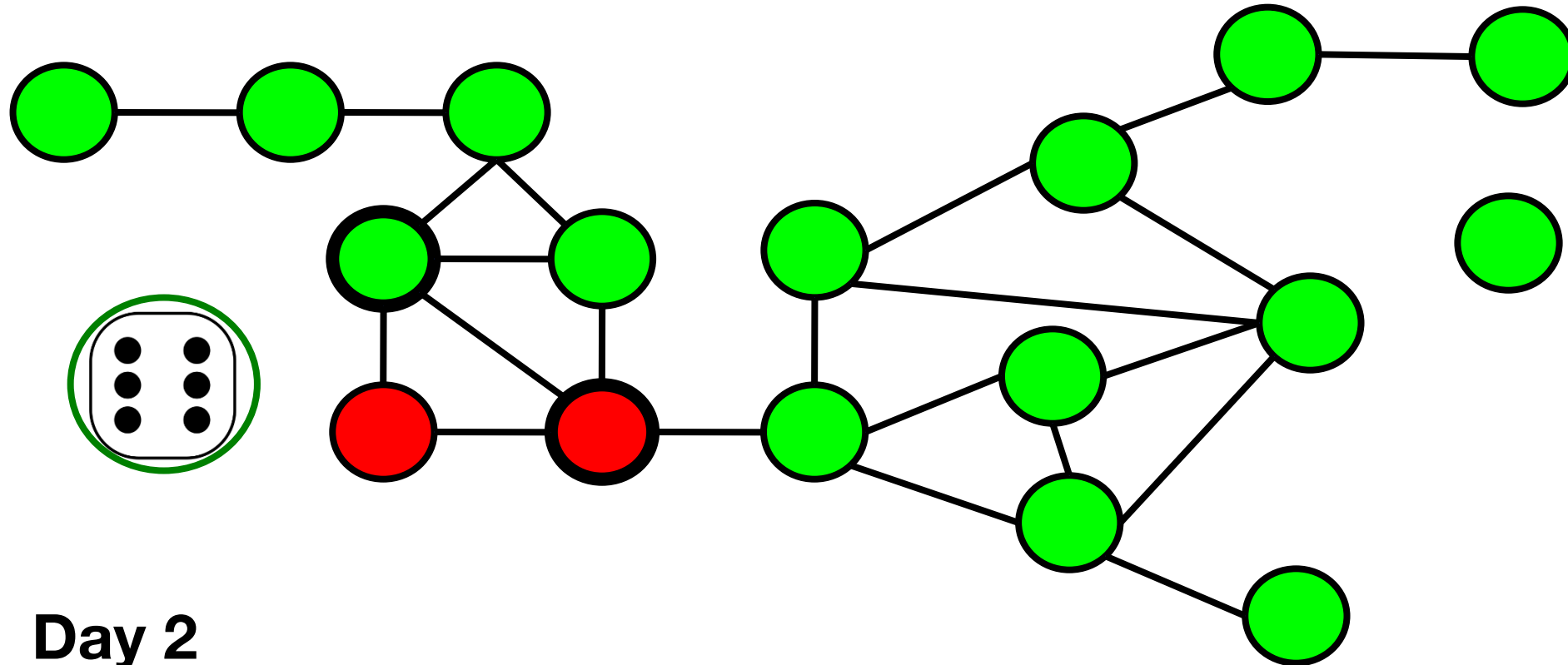
How does an epidemic spread on a network?



Day 2

- Go round infected person's contacts in turn
- Roll dice. If number is 1 or 2, infect that person
- Continue for all contacts

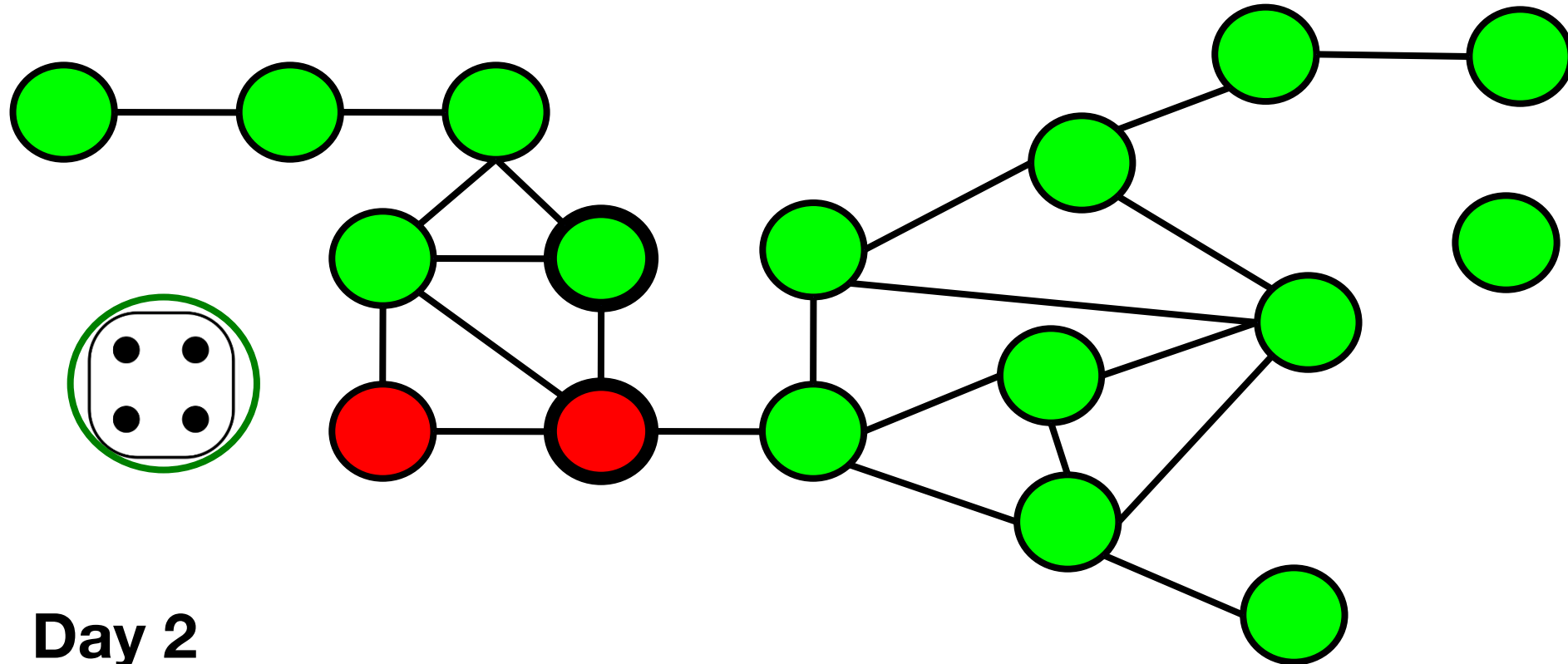
How does an epidemic spread on a network?



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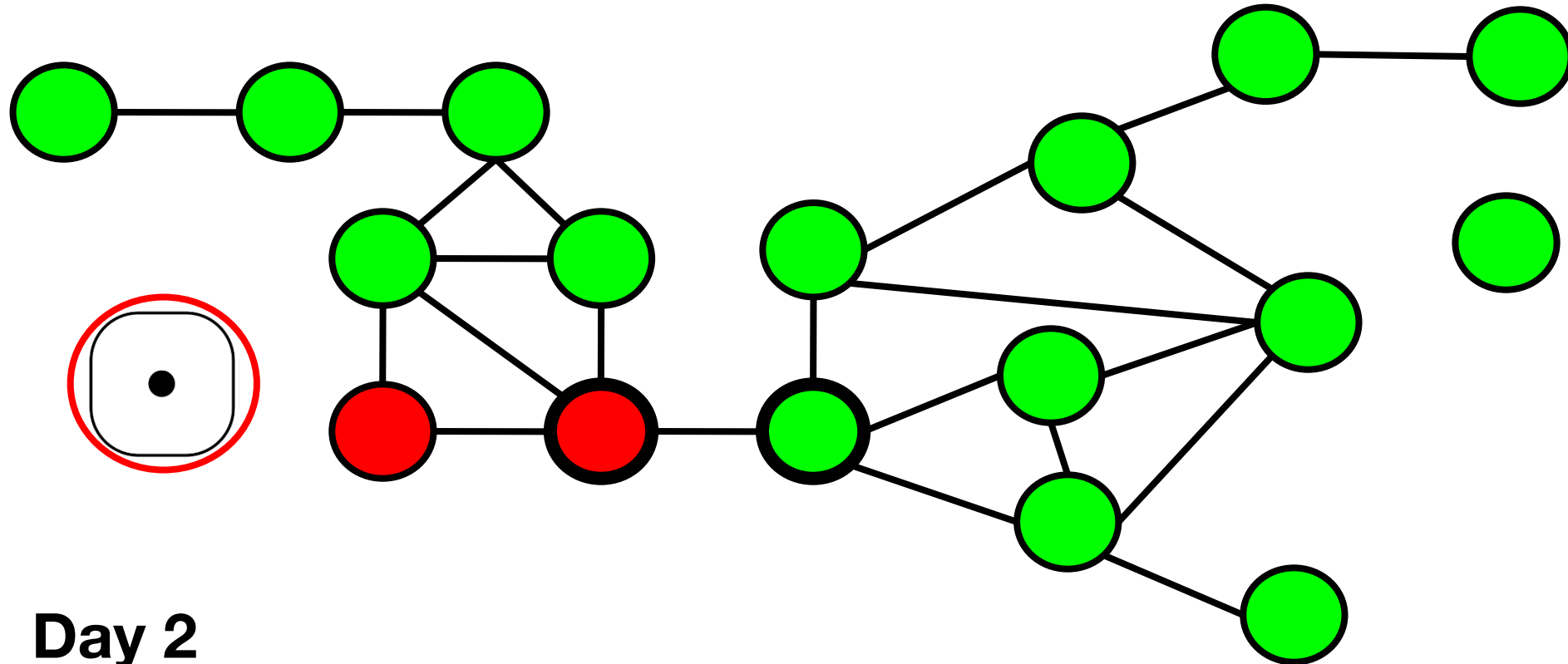
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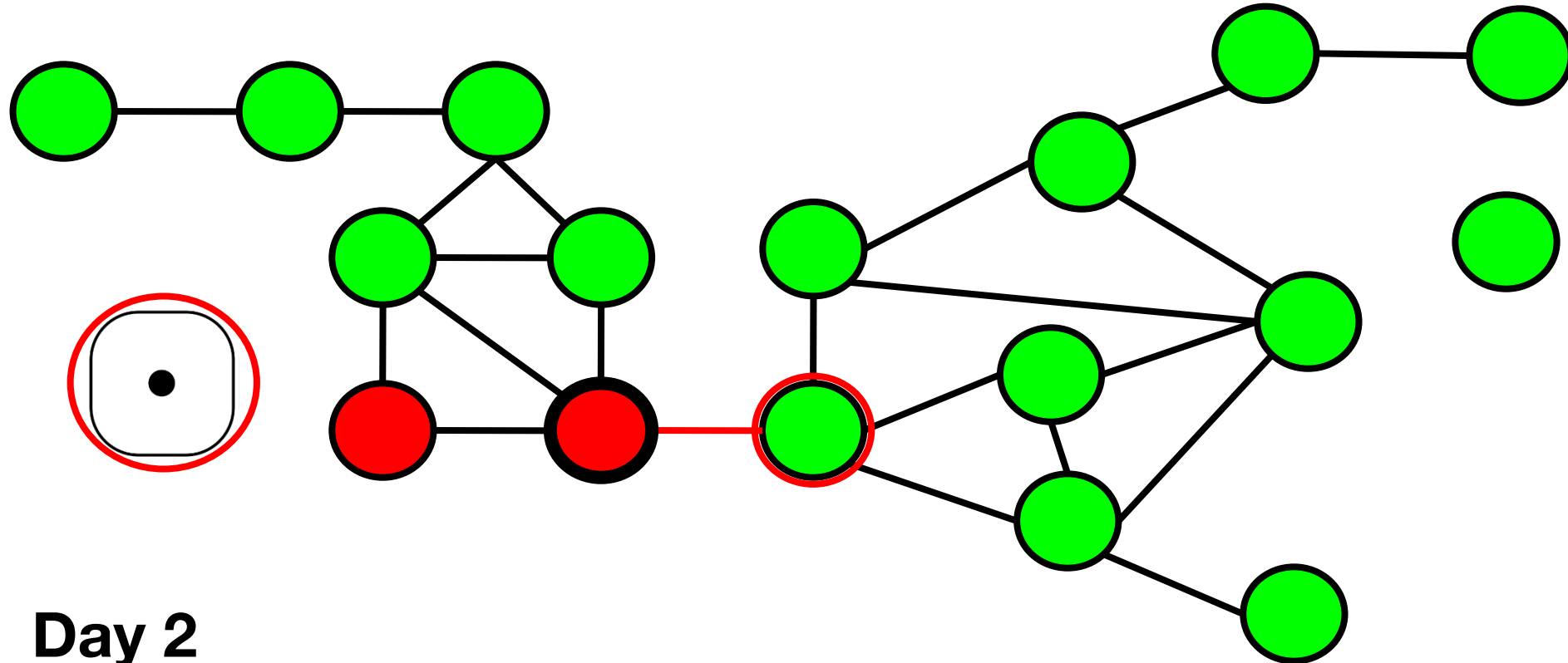
How does an epidemic spread on a network?



Day 2

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- Continue for all contacts

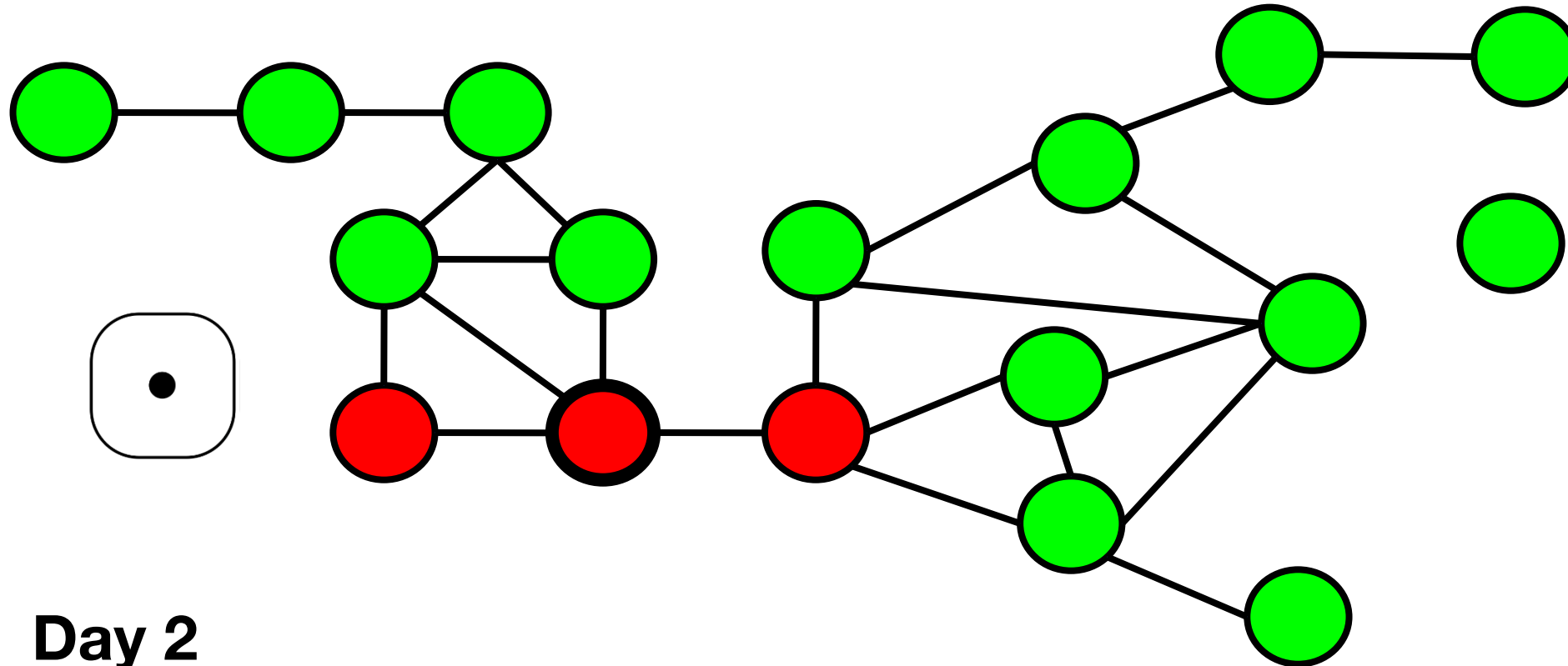
How does an epidemic spread on a network?



Day 2

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- Roll dice. If number is 1 or 2, infect that person
- Continue for all contacts

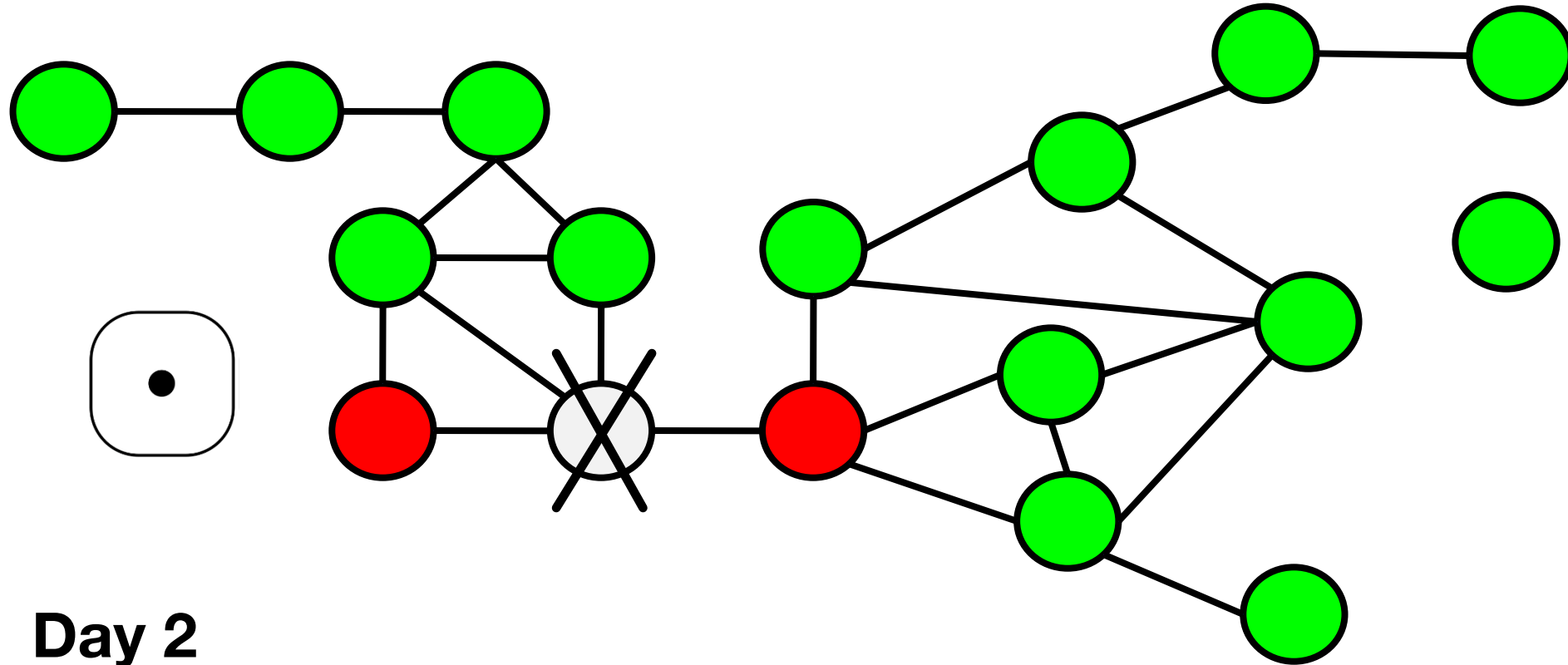
How does an epidemic spread on a network?



Day 2

- Go round infected person's contacts in turn
- Roll dice. If number is 1 or 2, infect that person
- Continue for all contacts, then infected person recovers

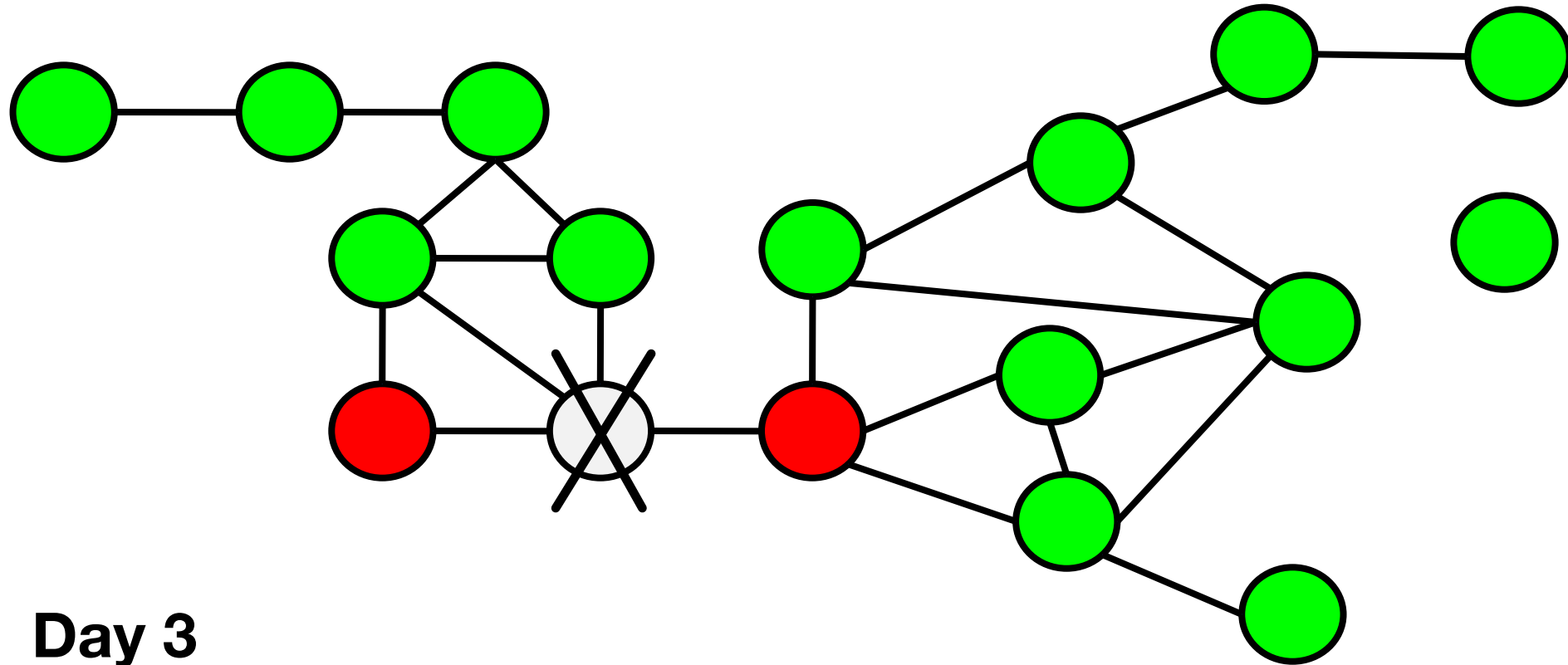
How does an epidemic spread on a network?



Day 2

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- Continue for all contacts, then infected person recovers

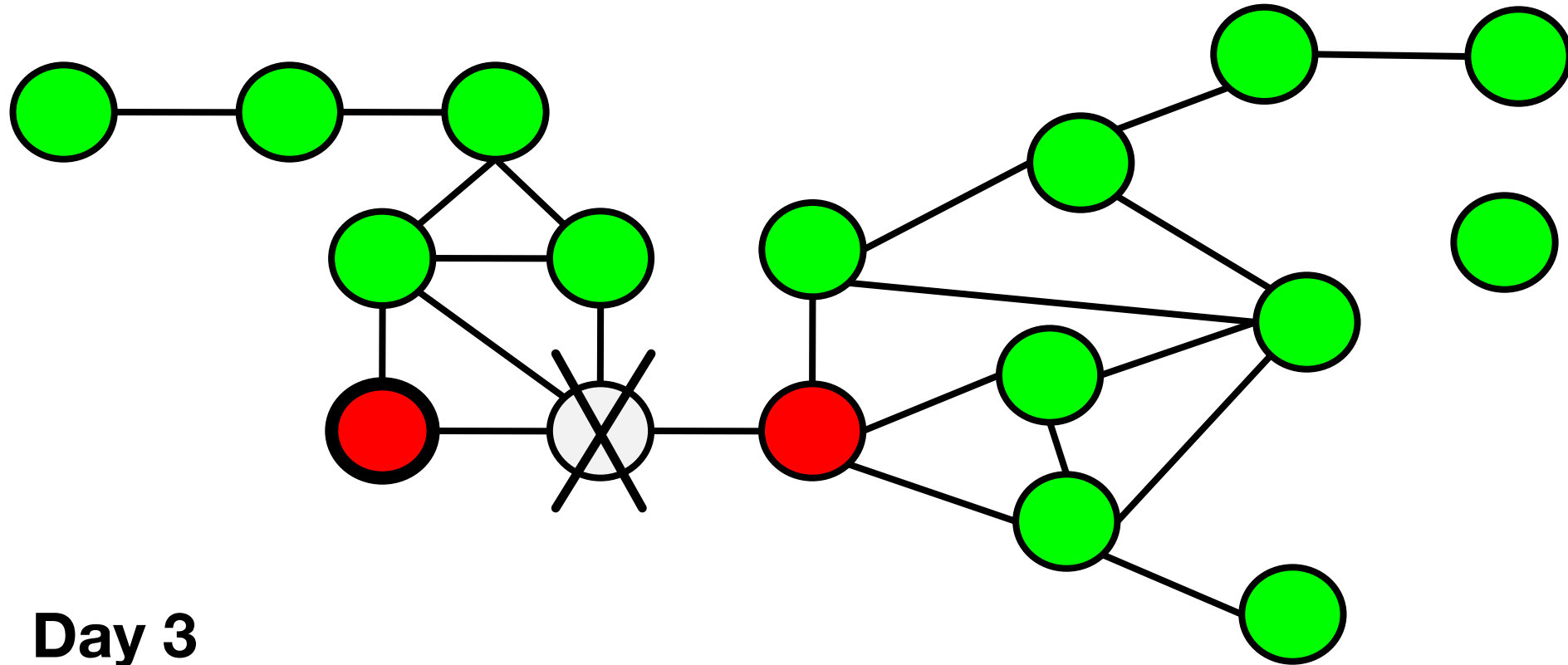
How does an epidemic spread on a network?



Day 3

- Start with two infected people
- For each infected person, roll dice for each contact

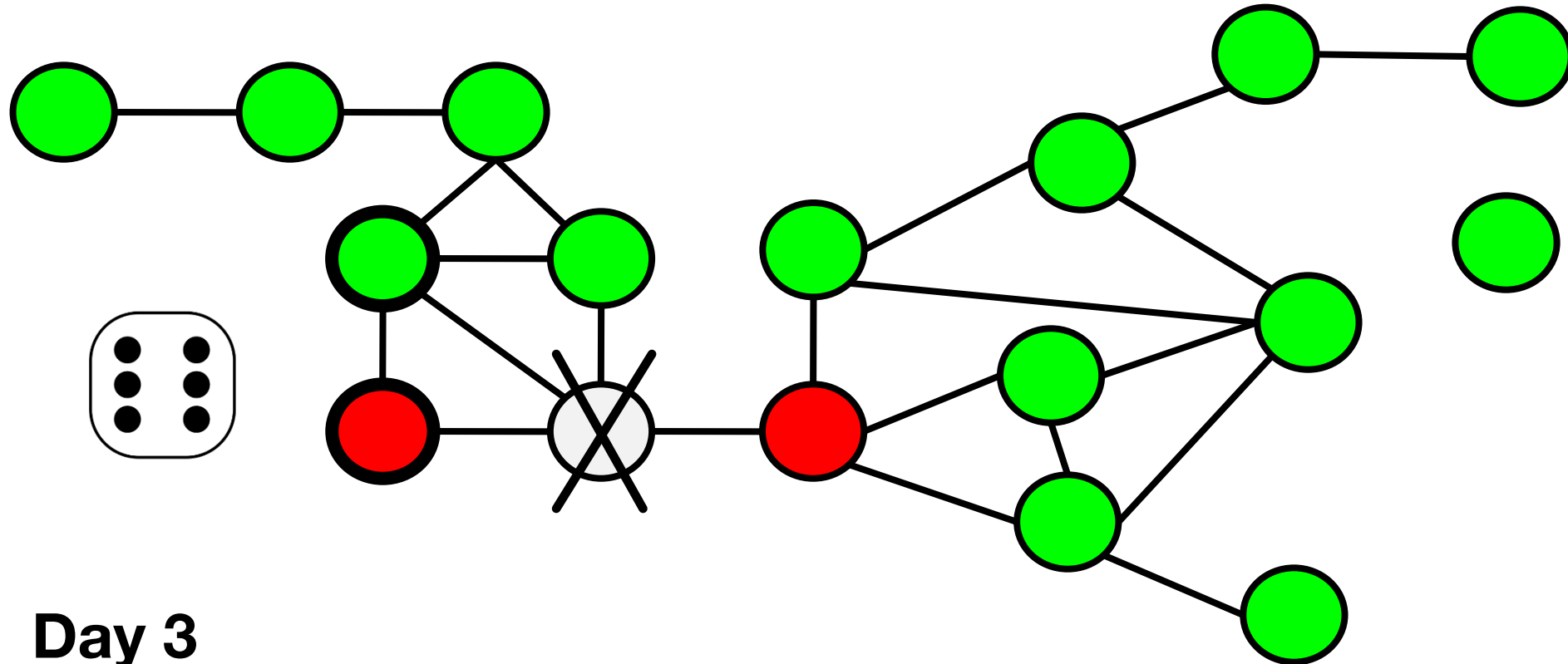
How does an epidemic spread on a network?



Day 3

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- For each infected person, roll dice for each contact

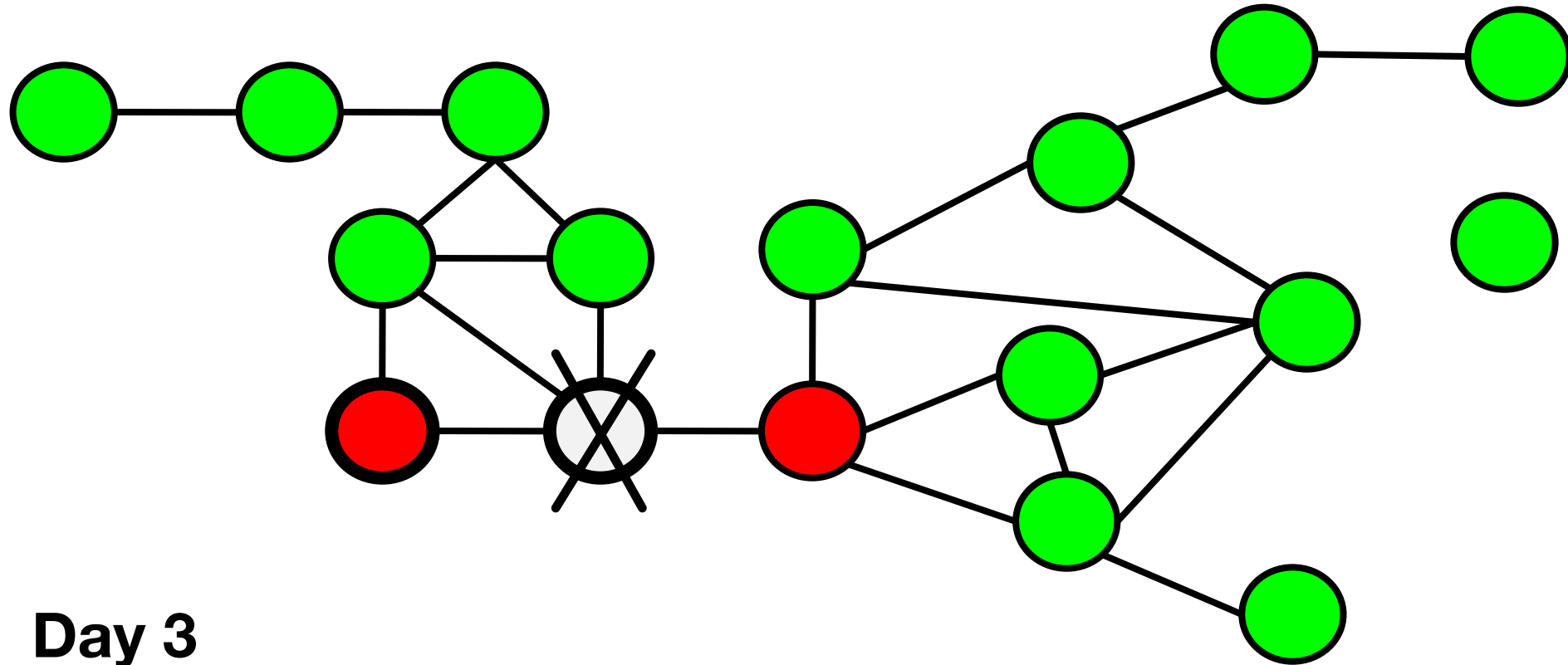
How does an epidemic spread on a network?



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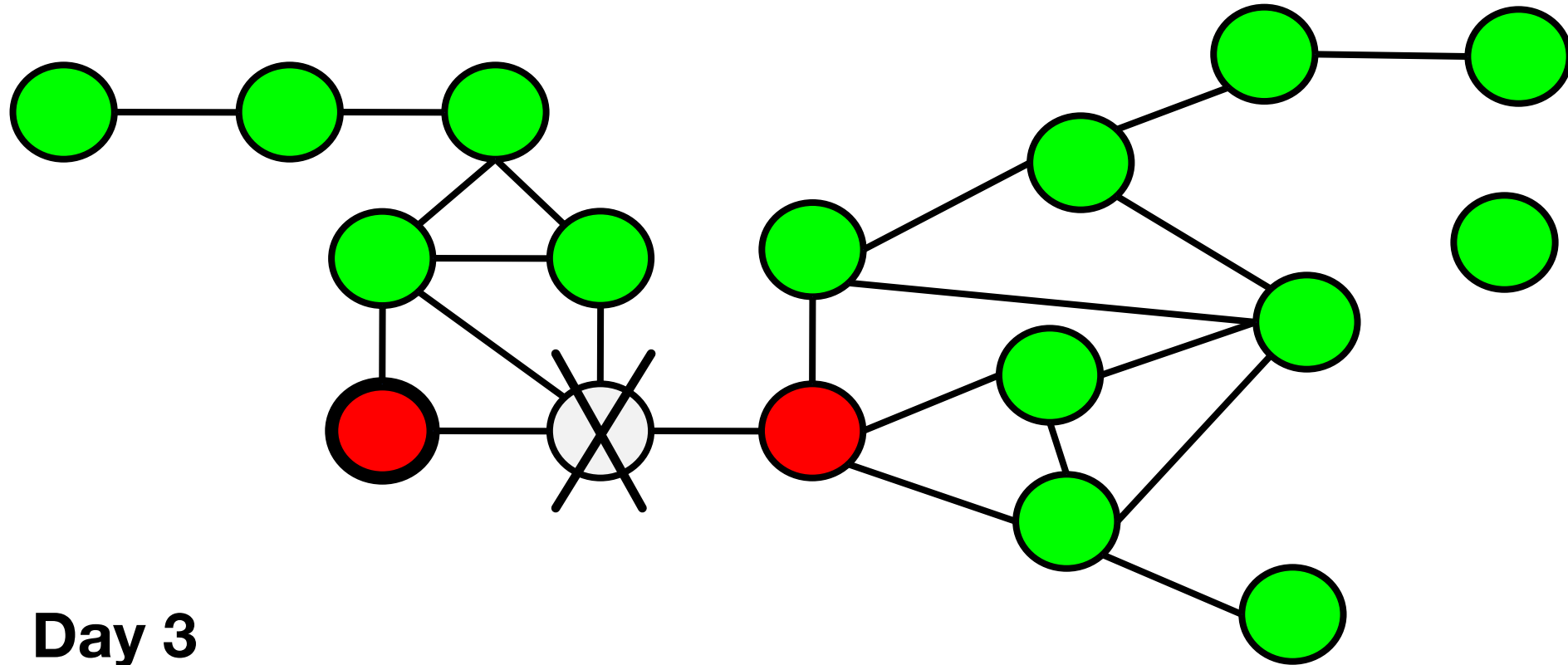
How does an epidemic spread on a network?



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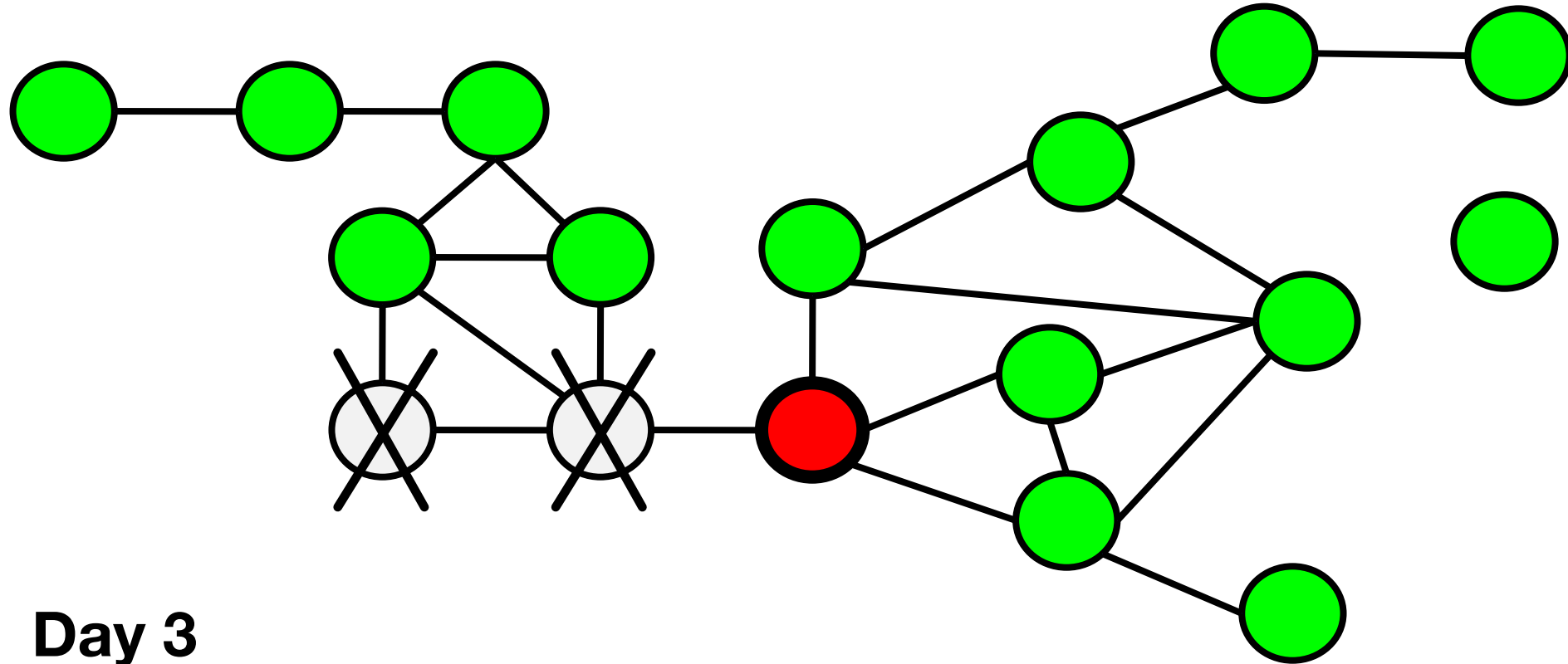
How does an epidemic spread on a network?



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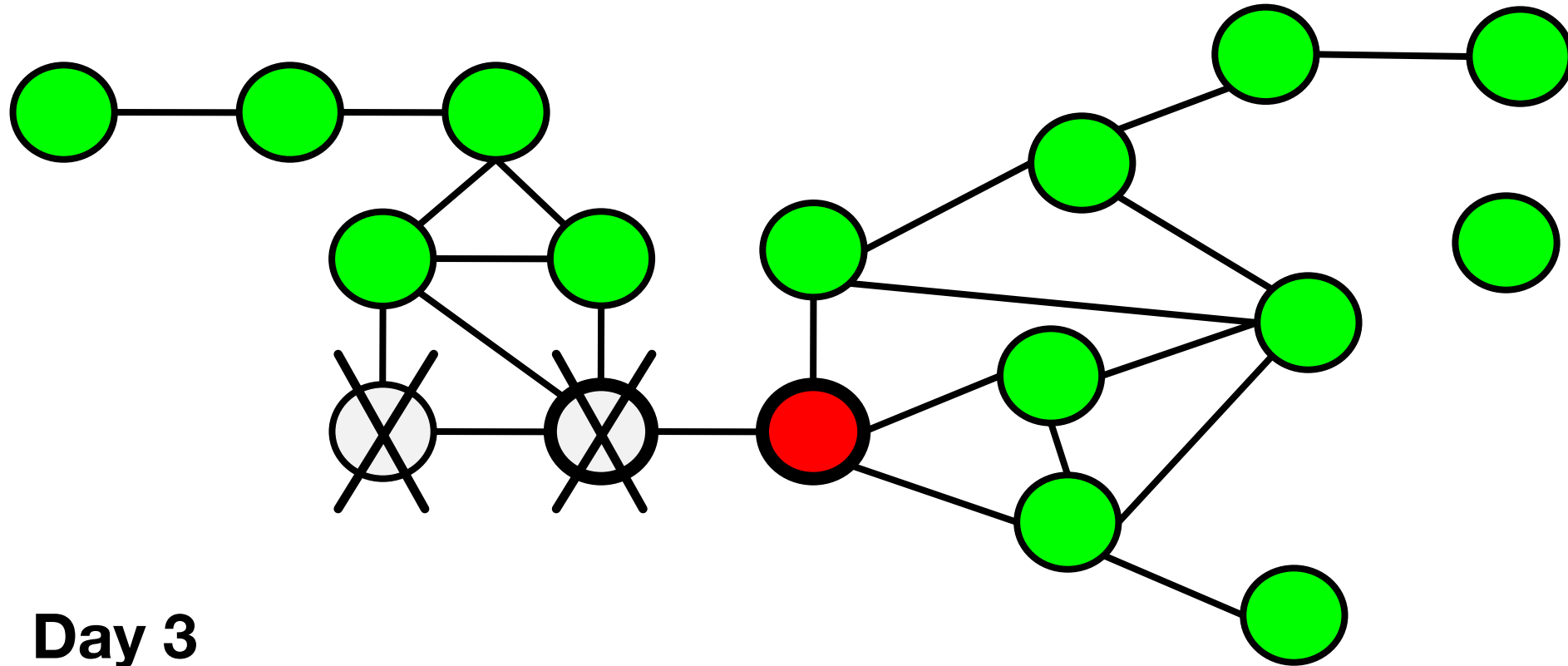
How does an epidemic spread on a network?



Day 3

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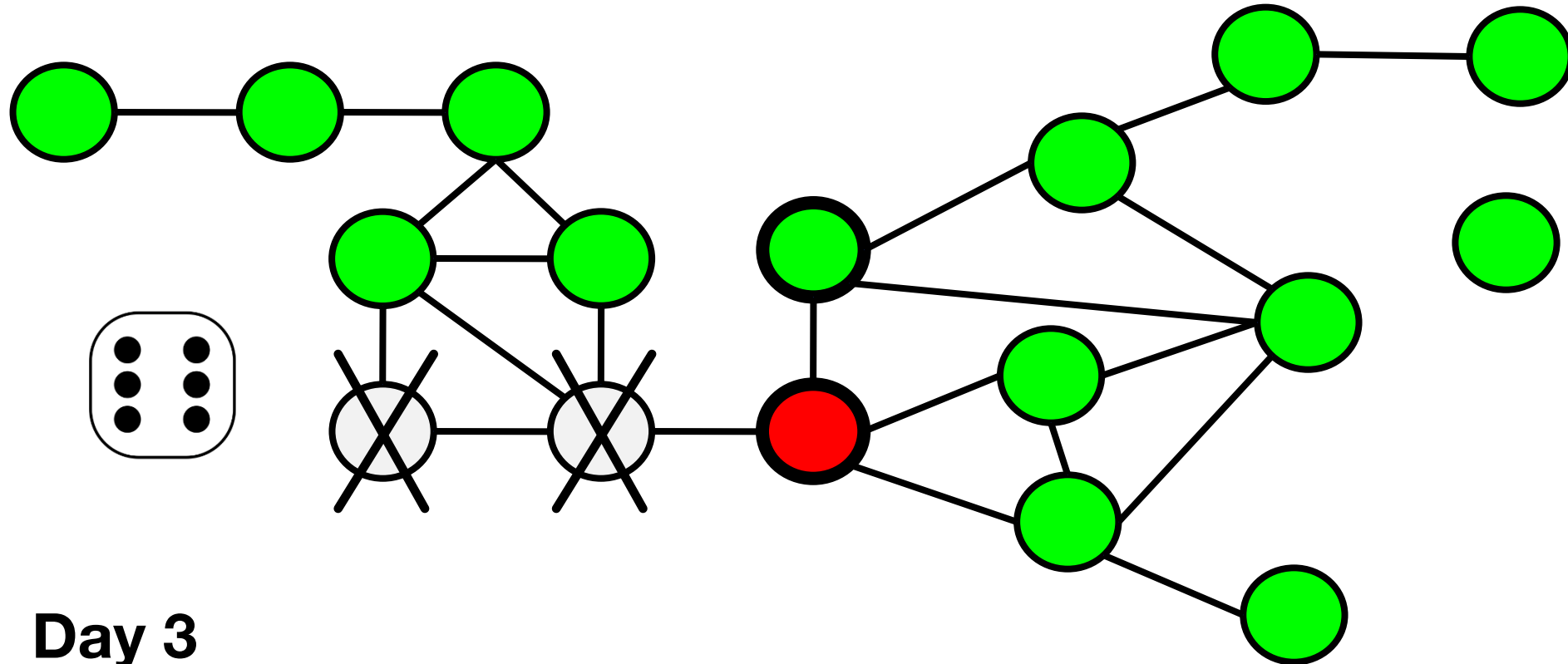
How does an epidemic spread on a network?



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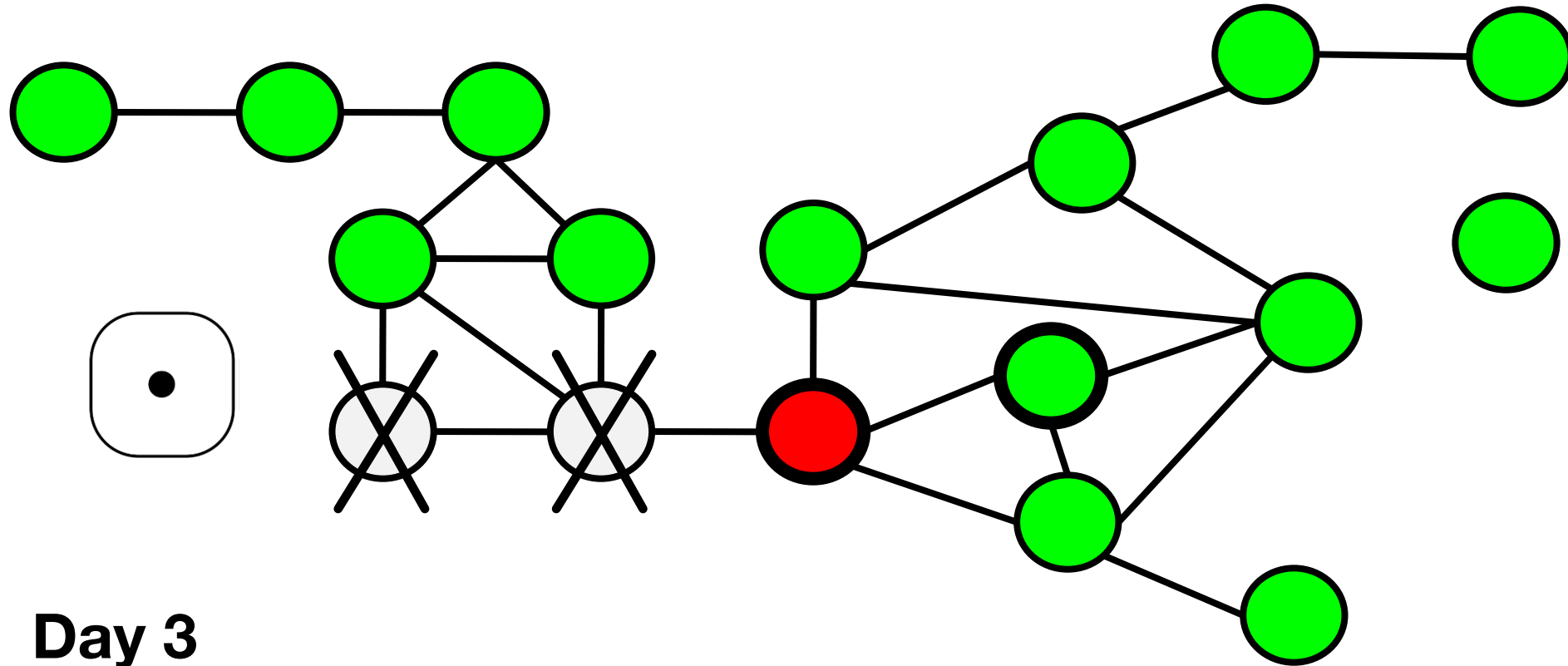
How does an epidemic spread on a network?



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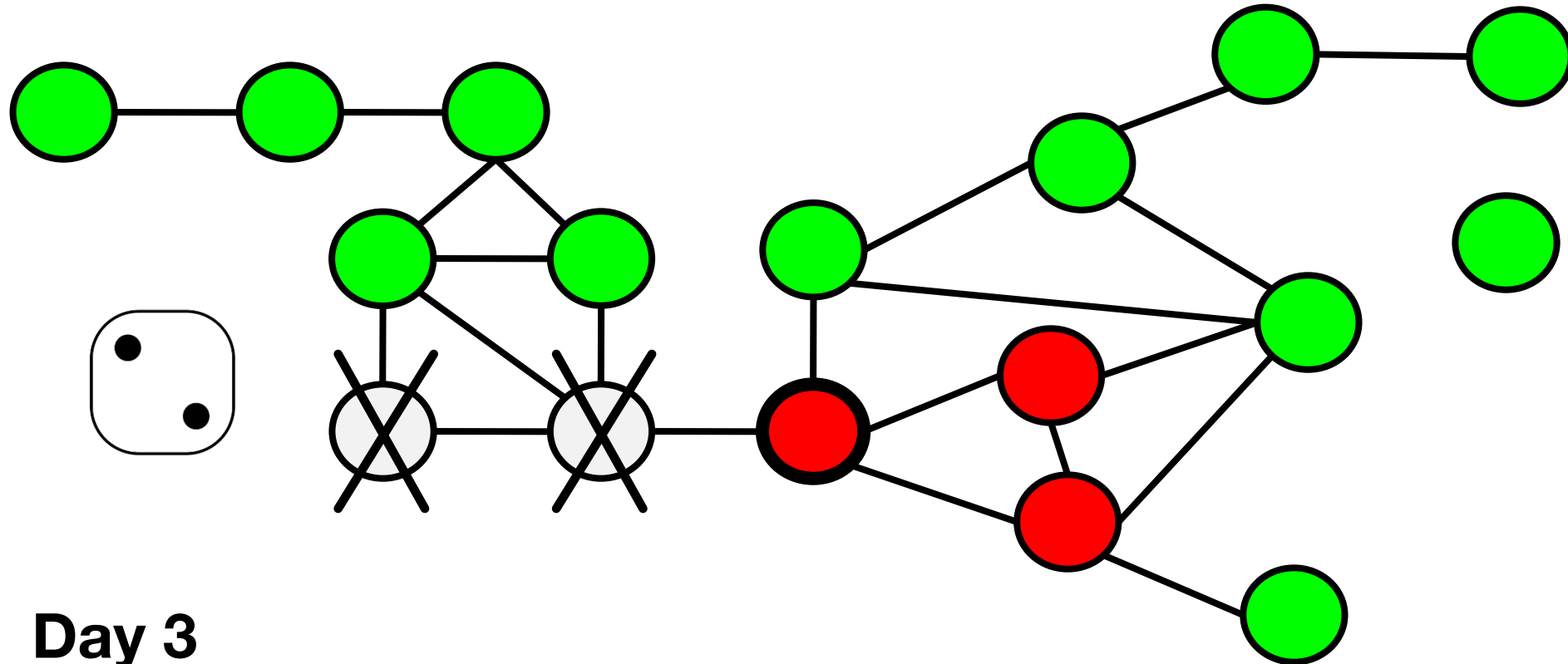
How does an epidemic spread on a network?



Day 3

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- For each infected person, roll dice for each contact

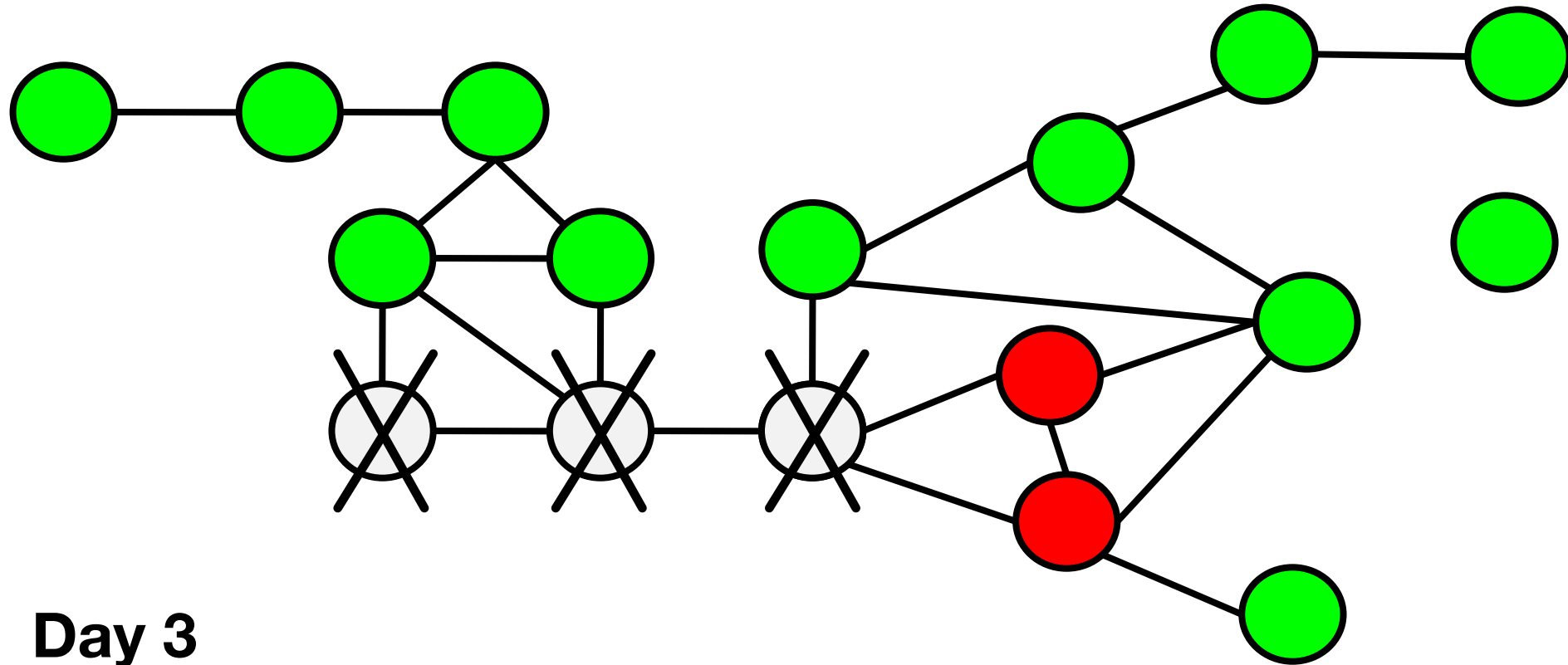
How does an epidemic spread on a network?



Day 3

- Start with two infected people
- For each infected person, roll dice for each contact

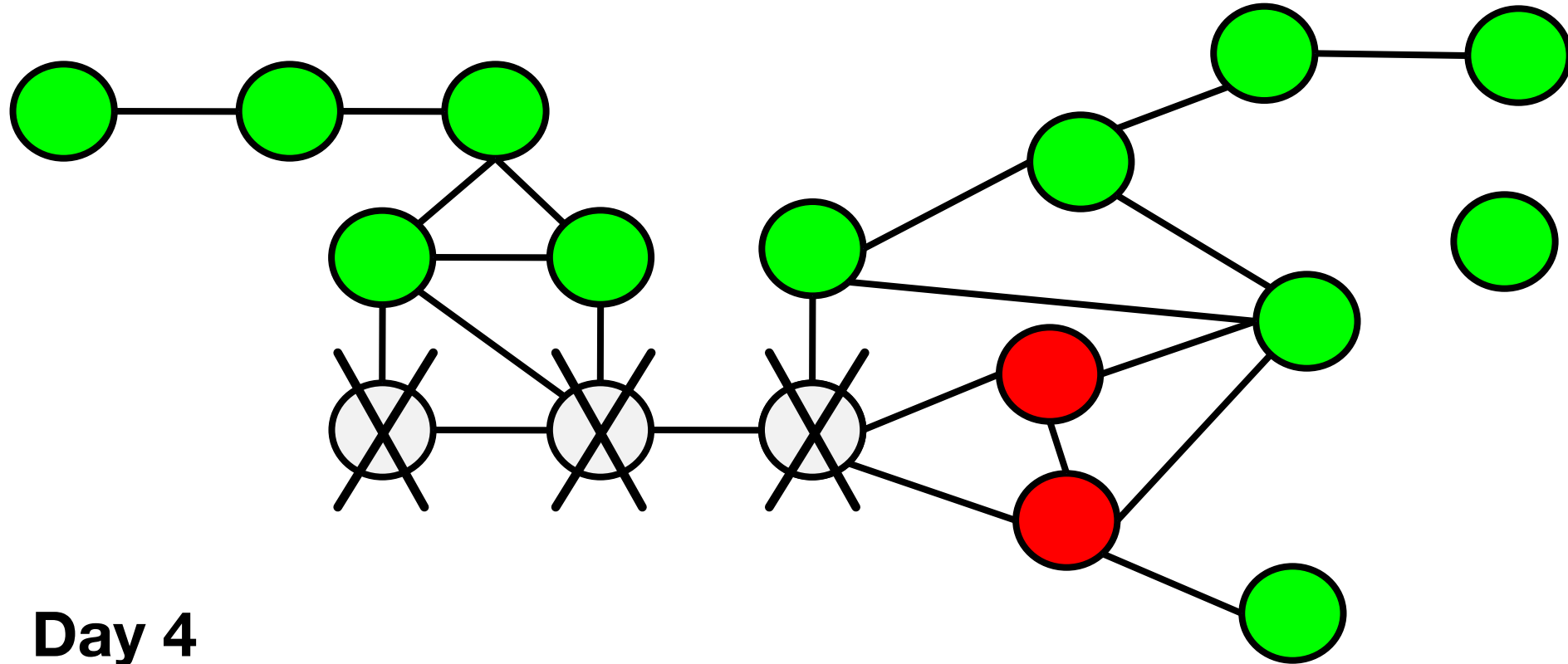
How does an epidemic spread on a network?



Day 3

- Start with two infected people
- For each infected person, roll dice for each contact

How does an epidemic spread on a network?



Day 4

- Start with two infected people
- Continue until epidemic ends